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# **Applications and Product Literature**

## **Selector Guide and Device Cross Reference**

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# **Applications and Product Literature**

## **Selector Guide and Device Cross Reference**

Motorola's Applications Literature provides guidance to the effective use of its semiconductor families across a broad range of practical applications. Many different topics are discussed – in a way that is not possible in a device data sheet – from detailed circuit designs complete with PCB layouts, through matters to consider when embarking on a design, to complete overviews of a microprocessor family and its design philosophy.

Information is presented in the form of Application Notes and Article Reprints (originally published<sup>1</sup> in the electronics press), plus detailed Engineering Bulletins, Benchbriefs<sup>2</sup>, Design Concepts, APRs<sup>3</sup>. This guide to the Applications Literature includes a *Selector Guide* listing all the documents under subject or device-type headings, and a *Device Cross Reference* listing by featured devices.

Each section of this *Applications Literature Selector Guide* also includes cross references to a selection from Motorola's extensive range of Data Books, Brochures, Technical Bulletins and Selector Guides, which may provide further relevant information.

Information in this document is given in good faith and no liability is accepted for errors or omissions. Includes literature available as of March 1, 1994.

## Historical Information

The various Application Notes, Article Reprints, Engineering Bulletins and Design Concepts were developed at Design Centers strategically placed throughout the global community, and many were written originally to support a local need. While the basic concepts of each of the publications have broad applications, specific Motorola parts may be referenced that are currently available for limited distribution in a selected region and are only currently supported by the country of origin of the Application Notes, Article Reprints, Engineering Bulletins and Design Concepts.

Also contained in this catalog, for completeness and historical significance, are Application Notes, Article Reprints, Engineering Bulletins and Design Concepts that are no longer available as individual documents because obsolete devices are referenced. These are marked with the letters "HI" to indicate that these documents are for *Historical Information* only.

All the Application Notes, Article Reprints, Engineering Bulletins and Design Concepts are included to enhance the user's knowledge and understanding of Motorola's products. However, before attempting to design-in a device referenced in these documents, contact the local Motorola supplier for product availability and available application support.

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<sup>1</sup> Article Reprints are reproduced with the permission of the original publisher.

<sup>2</sup> A Benchbrief is an Engineering Bulletin produced by Motorola's Asia-Pacific Group.

<sup>3</sup> APRs are applications documents relating specifically to Digital Signal Processing.

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DL412/D	14.85	13.25	12.20	2		
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DL414/D	12.10	10.80	9.96	2		
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M6805UM/AD3	2.70	2.40	2.20	2		
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M68000FR/AD	5.40	4.80	4.40	2		
M68000PM/AD	3.70	3.30	3.00	2		
M68000UM/AD	1.55	1.40	1.25	2		
M68020UM/AD	2.10	2.00	1.85	2		
M68040UM/AD	3.10	2.90	2.65	2		
M68HC05AG/AD	2.25	2.00	1.80	2		

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MC68302UM/AD	3.40	3.00	2.75	2		
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MC68851UM/AD	8.15	7.25	6.65	2		
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MC68HC11K4RG/AD	0.75			1		
MC68HC11KA4RG/AD	0.75			1		
MC68HC11L6RG/AD	0.30			1		
MC68HC16Z1UM/AD	2.40	2.10	1.95	1		
MC68HC811E2RG/D	0.40			1		
MC88100UM/AD	4.85	4.30	3.95	1		
MC88110UM/AD	2.85	2.50	2.30	1		
MC88110/410DH/AD	2.85	2.50	2.30	1		
MC88200UM/AD	4.85	4.30	3.95	1		
MC88410UM/AD	1.75	1.55	1.45	1		
MC92005UM/D	.80			1		
MCA3ECL/D	3.85			1		
MCA3ETLDM/D	2.65	2.35	2.15	1		
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TB303/D	49.80	47.65	45.50	4		
TB304/D	19.60	18.75	17.90	2		
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TB313/D	12.10	11.55	11.05	3		
TB316/D	34.90	33.40	31.90	2		
TB316LM/D	12.70	12.15	11.60	1		
TB317/D	13.35	12.75	12.20	3		
TB318/D	50.60	48.40	46.20	4		
TB319/D	30.20	28.90	27.55	4		
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## Device Cross Reference

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0AC5 .....	AN801/D	2N5460 .....	AN211A/D	DEVB103 .....	AN1300/D
0AC5A .....	AN801/D	2N5596 .....	AN1033/D	.....	AN1311/D
0DC5 .....	AN801/D	2N6236 .....	EB30/D	DEVB114 .....	AN1305/D
1AC5 .....	AN801/D	2N6237 .....	EB30/D	DEVB118 .....	AN1301/D
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2N4221 .....	AN211A/D	.....	EB407/D	.....	APR401/D
2N4221A .....	AN211A/D	BUL146 .....	EB407/D	DSP56001 .....	ANE408/D
2N4222 .....	AN211A/D	BUL147 .....	EB407/D	.....	APR1/D
2N4222A .....	AN211A/D	BUL148 .....	EB407/D	.....	APR2/D
2N4351 .....	AN211A/D	CA2200 .....	AN1027/D	.....	APR4/D
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2N4852 .....	AN294/D	CA2820 .....	AN1022/D	.....	APR6/D
2N4853 .....	AN294/D	CA2870 .....	AN1022/D	.....	APR7/D
2N5060 .....	EB30/D	CPU05 .....	AN1218/D	.....	APR9/D
2N5061 .....	EB30/D	CPU08 .....	AN1218/D	.....	APR11/D
.....	EB126/D	CPU32 .....	AN455/D	.....	APR12/D
2N5062 .....	EB30/D	CR2424 .....	AN1021/D	.....	APR14/D
2N5063 .....	EB30/D	.....	AN1306/D	.....	APR15/D
2N5064 .....	EB30/D	.....	AN1103/D	.....	APR401/D
2N5361 .....	AN462/D	CR2425 .....	AN1021/D	.....	APR402/D
2N5401 .....	AN1076/D	CR3424 .....	AN1103/D	.....	DC407/D
2N5458 .....	AN211A/D	CR3434 .....	AN1103/D	.....	DCE406/D

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MC68B50	AN905/D
MC68EC030	AN1127/D
MC68HC000	AN1123/D
MC68HC04	ANE422/D
MC68HC04J2	ANE422/D
MC68HC04P4	ANE422/D
MC68HC05	AN448/D
	AN1067/D
	AN1203/D
	AN1212/D
	AN1218/D
	AN1318/D
	DC410/D
MC68HC05B	ANE416/D
MC68HC05B4	AN431/D
	ANE416/D
	ANE418/D
MC68HC05B6	AN434/D
	AN1097/D
	AN1120/D
	ANE418/D
	ANE420/D
MC68HC05C4	AN991/D
	AN1011/D
	AN1067/D
	ANE413/D
MC68HC05C5	AN1066/D
MC68HC05E0	AN441/D
	AN460/D
MC68HC05J1	AN1067/D
MC68HC05L6	AN442/D
MC68HC05SC11	EB401/D
	EB402/D
	EB404/D
MC68HC05SC21	AN436/D
	EB401/D
	EB402/D
	EB404/D
	EB405/D
MC68HC05SC21B	EB403/D
MC68HC05SC23	EB404/D
MC68HC05SC2x	EB404/D
MC68HC05SC3x	EB404/D
MC68HC05SC3y	EB404/D
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	AN1102/D
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.....	AN1309/D	MC74F374 .....	AN1125/D	MC1741 .....	AN559/D
.....	AN1311/D	MC74F646 .....	AN1125/D	MC2681 .....	AN975/D
.....	AN1318/D	MC74F803 .....	AR519/D	MC2831A .....	AN-HK-02/H
.....	AN1319/D	MC74HC00 .....	ANE404/D	MC3362 .....	AN980/D
.....	AN1324/D	MC74HC04 .....	AN1102/D	MC3363 .....	AN980/D
.....	ANE405/D	MC74HC14 .....	AN1126/D	MC3373 .....	AN1016/D
.....	ANE415/D	MC74HC138 .....	ANE404/D	.....	AN1126/D
.....	DC410/D	MC74HC240 .....	AN1102/D	.....	AN1203/D
MC68HC11A8 .....	AN1067/D	MC74HC373 .....	AN1102/D	MC3373P .....	AN1126/D
MC68HC11A8P1 .....	AN1065/D	MC74HC4024 .....	AN1126/D	MC3403 .....	EB85A/D
MC68HC11E9 .....	AN456/D	MC74HC4046A .....	AN1410/D	MC3423 .....	AN004E/D
.....	AN1122/D	MC74HCU04 .....	AN1207/D	.....	AN1080/D
.....	AN1311/D	MC74LS04 .....	AN1102/D	.....	EB85A/D
MC68HC11G5 .....	AN432/D	MC74LS20 .....	AN1127/D	MC3424 .....	AN004E/D
MC68HC11K4 .....	AN452/D	MC74LS26 .....	AN1102/D	MC3425 .....	AN004E/D
.....	AN1215/D	MC74LS240 .....	AN1102/D	.....	EB85A/D
MC68HC11N4 .....	AN1215/D	MC74LS373 .....	AN1102/D	MC3438 .....	EB85A/D
MC68HC16Z1 .....	AN1061/D	MC74LS393 .....	AN1127/D	MC3450 .....	AN740/D
.....	AN1213/D	MC78L08 .....	AN1322/D	MC3452 .....	AN740/D
MC68HC24 .....	AN1102/D	MC78L08ACP .....	AN1325/D	MC3459 .....	AN740/D
.....	ANE415/D	MC100E111 .....	AN1405/D	MC3460 .....	AN740/D
MC68HC25 .....	ANE404/D	.....	AN1406/D	MC3486 .....	AN781A/D
MC68HC68T1 .....	AN457/D	.....	AR519/D	MC3487 .....	AN781A/D
.....	AN1065/D	MC100E211 .....	AN1405/D	MC3488 .....	AN781A/D
.....	ANE425/D	.....	AN1406/D	MC3523 .....	AN004E/D
MC68HC205V8 .....	AN1224/D	MC100EL11 .....	AN1406/D	MC3524 .....	AN004E/D
MC68HC704P4 .....	ANE421/D	MC100H60x .....	AN1402/D	MC3525 .....	AN004E/D
MC68HC705B5 .....	AN440/D	MC100H640 .....	AN1400/D	MC3870 .....	EB404/D
.....	AN1305/D	MC100H641 .....	AN1405/D	MC4007 .....	AN740/D
MC68HC705C8 .....	AN1067/D	.....	AN1406/D	MC4024 .....	AN740/D
.....	AN1212/D	MC100H646 .....	AN1406/D	MC4042 .....	AN740/D
.....	AN1226/D	MC100H64x .....	AN1401/D	MC6200ETL .....	AN1508/D
MC68HC705C8A .....	AN1226/D	MC100H660 .....	AN1092/D	MC6800 .....	AN732A/D
MC68HC705T3 .....	EB408/D	MC109XX .....	AR128/D	.....	AN782/D
MC68HC711E9 .....	AN1060/D	MC1330 .....	AN545A/D	MC6801 .....	AN797/D
MC68HC711F1 .....	AN1060/D	MC1350 .....	AN545A/D	.....	AN807/D
MC68HC711K4 .....	AN1060/D	MC1352 .....	AN545A/D	.....	AN1060/D
MC68HC805B6 .....	AN440/D	MC1374 .....	AN829/D	.....	ANE404/D
.....	AN446/D	MC1377 .....	AN932/D	MC6801U4 .....	ANE404/D
.....	ANE416/D	.....	AN1044/D	MC6803 .....	AN797/D
.....	ANE418/D	MC1378 .....	AN1044/D	MC6805 .....	AN902/D
MC68HC805C4 .....	AN966/D	MC1408 .....	EB51/D	.....	AN1218/D
.....	ANE425/D	MC1458 .....	EB79/D	.....	EB404/D
MC68HC805L6 .....	ANE425/D	MC1466 .....	AN703/D	MC6805L3 .....	ANE405/D
MC68HC811A2 .....	ANE415/D	MC1488 .....	AN781A/D	MC6805L8 .....	ANE405/D
MC68HC811E2 .....	AN458/D	MC1489 .....	AN781A/D	MC6805P2 .....	BF8401/D
MC74AC157 .....	APR11/D	MC1596 .....	AN531/D	MC6805R2 .....	AN910/D
MC74AC74 .....	APR11/D	MC1648 .....	AN1122/D	.....	BF8401/D
MC74ACT245 .....	APR11/D	.....	AN1207/D	MC6805R2( )1 .....	AN869/D
MC74AS280 .....	AN1125/D	MC1658 .....	AN1207/D	MC6805S2 .....	AN901/D
MC74F04 .....	AN1102/D	MC1670 .....	EB48/D	.....	ANE405/D
MC74F244 .....	AN1125/D	MC1723 .....	AN004E/D	MC6805S3 .....	ANE405/D
		.....	AN703/D	MC6805SC01 .....	EB401/D
		.....	EB27A/D	.....	EB402/D
				MC6805SC03 .....	EB401/D



# Device Cross Reference

MC6809 .....	AN820/D	MC14522 .....	EB48/D	MC34118 continued	
.....	AN865/D	MC14534 .....	EB48/D	.....	AN1004/D
.....	AN866/D	MC14519 .....	AN753/D	.....	AN1006/D
MC6809E .....	AN865/D	MC14549 .....	EB51/D	.....	AN1077/D
.....	AN866/D	MC14559 .....	EB51/D	MC34119 .....	AN1003/D
.....	AN892/D	MC14561 .....	AN738/D	.....	AN1004/D
.....	AN905/D	MC33033 .....	AN1078/D	.....	AN1081/D
MC6821 .....	AN782/D	.....	AN1301/D	MC34129 .....	AN968/D
MC6821S .....	AN810/D	.....	AN1307/D	.....	AN976/D
MC6844 .....	AN820/D	.....	AR341/D	.....	AN1001/D
.....	AN905/D	.....	EB123/D	.....	AR167/D
MC6847 .....	AN815/D	.....	EB142/D	MC34151 .....	AN1001/D
MC6850 .....	AN817/D	MC33034 .....	AN1001/D	.....	AN1120/D
MC6852 .....	AN818/D	.....	AN1046/D	.....	AN1300/D
MC8322 .....	AN740/D	.....	AR301/D	.....	AN1319/D
MC10124 .....	AN1092/D	.....	AR341/D	MC34160 .....	AN1065/D
MC10138 .....	AN742/D	MC33035 .....	AN1046/D	MC34161 .....	AN1314/D
MC10315 .....	AN877/D	.....	AN1101/D	MC34164P .....	AN1065/D
MC10317 .....	AN877/D	.....	AN1321/D	MC34181 .....	EB126/D
MC12060 .....	EB48/D	.....	AR341/D	MC34268 .....	AN1408/D
.....	EB59/D	MC33039 .....	AN1046/D	MC44602P2 .....	AN1325/D
MC12061 .....	EB59/D	.....	AN1321/D	MC44802A .....	AN1122/D
MC12560 .....	EB59/D	.....	AR301/D	MC68000 .....	AN451/D
MC12561 .....	EB59/D	.....	AR341/D	.....	AN810/D
MC13001 .....	AN879/D	MC33079 .....	AN1100/D	.....	AN815/D
MC13020 .....	AN-HK-07/H	MC33120 .....	AN1054/D	.....	AN816/D
MC13021 .....	AN-HK-07/H	MC33151 .....	AN1317/D	.....	AN817/D
MC13041 .....	AN-HK-07/H	MC33161 .....	AN1322/D	.....	AN818/D
MC14000 .....	AN1102/D	MC33272 .....	AN1324/D	.....	AN819/D
MC14001 .....	EB48/D	.....	AN1325/D	.....	AN838/D
.....	EB51/D	MC33274 .....	AN1318/D	.....	AN854/D
MC14011 .....	EB51/D	.....	AN1325/D	.....	AN881/D
MC14013 .....	EB48/D	MC34010 .....	AN957/D	.....	AN899/D
MC14017 .....	AN753/D	MC34010A .....	AN957/D	.....	AN947/D
MC14022 .....	EB48/D	MC34011 .....	AN957/D	.....	AN975/D
MC14028 .....	AN753/D	MC34011A .....	AN957/D	.....	AN1012/D
MC14049UB .....	AN1102/D	MC34013 .....	AN957/D	.....	AN1123/D
MC14050B .....	AN1102/D	MC34013A .....	AN957/D	.....	AR211/D
MC14069 .....	EB51/D	MC34014 .....	AN958/D	.....	AR216/D
MC14403 .....	EB48/D	MC34017 .....	AN1003/D	.....	AR233/D
MC14412 .....	APR12/D	.....	AN1004/D	.....	AR235/D
MC14433 .....	AN770/D	MC34018 .....	AN959/D	.....	AR242/D
MC14443 .....	AN1211/D	.....	AN1002/D	.....	AR243/D
MC14447 .....	AN1211/D	.....	AN1077/D	.....	DC001/D
MC14469 .....	AN806A/D	MC34060 .....	EB128/D	.....	DCE404/D
MC14489 .....	AN431/D	MC34060A .....	EB142/D	.....	DCE406/D
.....	EB153/D	MC34063 .....	AN920/D	MC68008 .....	AN897/D
MC14495-1 .....	AN1122/D	.....	AN954/D	.....	APR402/D
MC14497 .....	AN885/D	MC34064 .....	ANE415/D	.....	AR226/D
MC14499 .....	AN1211/D	MC34064P-5 .....	AN1315/D	.....	AR233/D
MC14500 .....	AN889/D	MC34104 .....	AN960/D	.....	AR243/D
MC14504 .....	AN1102/D	MC34108 .....	AN957/D	MC68010 .....	AN970/D
MC14510 .....	AN753/D	MC34114 .....	AN1002/D	.....	AN996/D
MC14518 .....	AN742/D	.....	AN1004/D	.....	AN1008/D
MC14519 .....	AN753/D	MC34118 .....	AN1003/D	.....	AR233/D

.....	AR243/D	.....	AN437/D	.....	AN994RE/D
.....	ARE001/D	.....	AN1061/D	.....	ANE009/D
MC68012	AR233/D	.....	AN1062/D	.....	AR213/D
.....	AR243/D	.....	AN1067/D	.....	AR232/D
MC68020	AN451/D	.....	AN1123/D	.....	AR233/D
.....	AN984/D	.....	AN1310/D	.....	AR519/D
.....	AN994RE/D	MC68340	AN449/D	.....	DCE402/D
.....	AN1014/D	.....	AN451/D	.....	DCE403/D
.....	AN1015/D	.....	AN453/D	.....	EB116/D
.....	AN1310/D	.....	AN1063/D	MC68882	AN430/D
.....	AR213/D	.....	AN1123/D	.....	ANE009/D
.....	AR217/D	MC68451	AN880/D	.....	AR224/D
.....	AR225/D	.....	AN996/D	.....	AR244/D
.....	AR227/D	.....	ARE001/D	.....	AR519/D
.....	AR232/D	.....	DC001/D	.....	DCE402/D
.....	AR233/D	MC68605	AN970/D	.....	DCE403/D
.....	AR242/D	MC68606	AN1013/D	.....	EB116/D
.....	AR243/D	.....	AN1014/D	MC68901	AN896A/D
.....	AR259/D	MC68681	AN897/D	.....	AN975/D
.....	AR268/D	.....	AN1217/D	.....	AN1015/D
.....	AR519/D	.....	AN899/D	MC75176	AN1216/D
.....	DC003/D	.....	AN941/D	MC75491	AN753/D
.....	DC407/D	.....	AN975/D	MC75492	AN753/D
.....	DCE402/D	.....	AN990/D	MC88000	AR519/D
.....	DCE403/D	.....	AN996/D	MC88100	AN447/D
.....	EB116/D	.....	ANE426/D	.....	AN447A/D
.....	EB406/D	.....	DC402/D	.....	AN1125/D
MC68030	AN430/D	MC68701	AN906A/D	.....	AN1129/D
.....	AN999/D	MC68701U4	AN906A/D	.....	AR519/D
.....	ANE426/D	MC68704P2	AN942/D	.....	EB117/D
.....	AR248/D	MC68705	AN885/D	MC88110	AN1214/D
.....	AR253/D	MC68705P3	AN857/D	.....	AN1217/D
.....	AR270/D	.....	AN940/D	.....	DC408/D
.....	AR519/D	.....	AN993/D	.....	EB162/D
.....	DC407/D	MC68705R3	AN857/D	.....	EB163/D
.....	DCE402/D	.....	AN991/D	.....	EB164/D
.....	DCE403/D	MC68705U3	AN857/D	.....	EB165/D
.....	EB116/D	.....	AN902/D	MC88200	AN447/D
MC68040	AN435/D	MC68824	AN1007/D	.....	AN447A/D
.....	AN439/D	.....	AN1008/D	.....	AN1125/D
.....	AN444/D	.....	AR262/D	.....	AN1129/D
.....	AR519/D	.....	DC004/D	.....	AR519/D
MC68184	AR262/D	MC68836	DC409/D	.....	EB117/D
MC68230	AN854/D	MC68837	DC409/D	MC88410	AN1217/D
.....	AN975/D	MC68838	DC409/D	MC88914	AN1125/D
.....	AN996/D	MC68839	DC409/D	.....	AR519/D
.....	ANE426/D	MC68851	AN984/D	MC88915	AN1214/D
MC68302	AN457/D	.....	AN994/D	.....	AN1217/D
.....	AN1123/D	.....	AN994RE/D	.....	AR519/D
.....	AR350/D	.....	AR232/D	MC142100	AN893/D
MC68330	AN1123/D	.....	DCE402/D	.....	BF8501/D
MC68331	AN1123/D	MC68881	AN947/D	MC142101	AN893/D
MC68332	AN429/D	.....		MC143120	AN1208/D
				.....	AN1225/D

# Device Cross Reference

MC143150	AN1208/D	MC145419	continued	MCA2500ECL	AN953/D
	AN1211/D		AR239/D	MCA3200ETL	AN1508/D
	AN1216/D	MC145421	AR239/D	MCA10000ECL	AN977RE/D
	AN1225/D	MC145422	AN943/D		AN1508/D
MC144110	AN1211/D		AN946/D	MCC68HC05SC11	EB400/D
MC144111	AN1211/D		AN948/D	MCC68HC05SC21	EB400/D
MC144115	AN441/D		AN949/D	MCCS142234	AN1408/D
	ANE416/D		AN968/D	MCCS142235	AN1408/D
MC144115P	AN442/D		AR239/D	MCCS142237	AN1408/D
MC145000	AN442/D	MC145425	AR239/D	MCM60L256	AN441/D
	AN1216/D	MC145426	AN943/D	MCM2016	DC003/D
	ANE416/D		AN948/D	MCM2814	AN429/D
MC145003	AN442/D		AN949/D		AN446/D
MC145004	AN442/D		AN968/D	MCM2833	AN909/D
MC145026	AN1126/D		AR239/D	MCM4180	AR270/D
	AN-HK-02/H	MC145428	AN946/D	MCM5003	AN550/D
	BF8105/D		AN948/D	MCM5004	AN550/D
MC145027	AN1126/D		AN949/D	MCM6164	ANE426/D
	BF8105/D		AN968/D	MCM6268	AN984/D
MC145028	AN1126/D		AR239/D	MCM6287	AR241/D
	AN-HK-02/H	MC145429	AN1054/D		DCE402/D
MC145030	AN1126/D	MC145440	AN891/D	MCM6288	AR241/D
	AR255/D		AN-HK-01/H	MCM6290-25	DCE402/D
MC145033	AN1126/D	MC145441	AN-HK-01/H	MCM6292	AR256/D
MC145034	AN1126/D	MC145445	AN-HK-01/H		AR258/D
MC145035	AN1126/D	MC145453	AR266/D		AR260/D
MC145040	AN1061/D	MC145474	AN445/D	MCM6293	AR256/D
	AN1062/D		AN1054/D		AR258/D
MC145041	AN1061/D	MC145475	AN445/D		AR260/D
	AN1062/D	MC145484	AR239/D	MCM6294	AR256/D
MC145050	AN1061/D	MC145488	AN1054/D		AR258/D
	AN1062/D	MC145490EVK	AN1054/D		AR260/D
MC145051	AN1061/D	MC145503	APR12/D	MCM6295	AR256/D
	AN1062/D	MC145554	AN1054/D		AR258/D
	EB155/D	MC146805	AN1218/D		AR260/D
MC145053	EB155/D	MC146805E2	ANE404/D	MCM6605	AN740/D
MC145100	BF8501/D	MC146805F2( )1	AN863/D	MCM6605A	AN732A/D
MC145157	ANE416/D	MC146805F2L1	AN888/D	MCM6664	AN838/D
MC145159	AN969/D	MC146805G2	AN404/D	MCM6665	AN896A/D
MC145160	AN-HK-02/H		AN852/D	MCM6665L15	AN897/D
MC145170	AN1207/D		AN1011/D	MCM10143	AN730A/D
MC145326	AN946/D		ANE413/D	MCM62110	AN1217/D
MC145406	AN946/D	MC146805G2L1	AN852/D	MCM62350	AR270/D
	AN968/D	MC146818	AN864A/D	MCM62351	AR270/D
	AR239/D		AN894A/D	MCM62486	AN1223/D
MC145407	AN451/D		ANE404/D	MCM62940	AN1127/D
	AN1065/D	MC146823	AN864A/D	MCM67518	AN1223/D
MC145412	AN1002/D		ANE404/D	MCM67618	AN1223/D
	AN1003/D	MC688836	DC409/D	MCM67B518	AN1223/D
	AN1004/D	MC688837	DC409/D	MCM67B618	AN1223/D
	AN-HK-02/H	MC688838	DC409/D	MCM81000	AN1217/D
MC145418	AN945/D	MC688839	DC409/D	MCM84000	AN1217/D
	AR239/D	MCA750ETL	AN1508/D	MCM84256	AN1217/D
MC145419	AN945/D	MCA2200ETL	AN1508/D	MCM91000	AN1125/D
	AN946/D			MCM511001	AN999/D
				MCM514256	APR11/D

# Device Cross Reference

MCM514256A	APR11/D	MJH16110	EB85A/D	MPX200	AN919/D
MCM514258A	AN1127/D	MJW18010	AN1320/D		AN935/D
MCM514400	AN1063/D	MK1V270	AR450/D	MPX201	AN919/D
MCM518128	AN1059/D	MKP9V240	AR450/D	MPX700	AN1105/D
MCP2004	AN956/D	MLED71	AN1120/D	MPX2000	AN1097/D
MCP2005	AN956/D	MLED81	AN1016/D		AN1309/D
MCP2006	AN956/D		AN1203/D		AN1312/D
MCP2011	AN956/D	MMDF2C05E	AN1321/D		AN1313/D
MCP2012	AN956/D	MOC2A40	EB200/D		AN1315/D
MCP2014	AN956/D	MOC2A60	EB200/D		AN1318/D
MCP2015	AN956/D	MOC3031	AN916/D		AN1322/D
MCR69	AR450/D	MOC3041	AN916/D		AN1324/D
MCR1000	AR450/D		ANE422/D		AN1325/D
MCS3201	AN1123/D	MOC8100	AN1108/D	MPX2010	AN1312/D
MDC1000A	AN1101/D	MOC8101	AN1108/D		AN1313/D
	AR341/D		AN1325/D		AN1315/D
	EB142/D	MOC8102	AN1078/D		AN1318/D
MDC1000B	EB142/D		AN1080/D		AN1324/D
MDC1000C	EB142/D		AN1101/D	MPX2050	AN1312/D
MDC4010A	AN1322/D		AN1108/D		AN1313/D
MDC4510A	AN1322/D		AR341/D		AN1315/D
MFE2012	AN211A/D		EB126/D		AN1324/D
MFE4007	AN211A/D	MOC8104	AN1108/D	MPX2100	AN1082/D
MFOD71	ANE007/D	MPC1500	AR138/D		AN1309/D
MFOE71	ANE007/D	MPF102JFET	AN211A/D		AN1313/D
MGP20N50	AN934/D	MPM3002	AN1078/D		AN1315/D
MGTO1400	AR159/D		AN1213/D		AN1318/D
MHW607	AN1107/D		AN1300/D		AN1322/D
MHW612	EB107/D		AN1301/D		AN1324/D
MHW613	EB107/D		EB123/D	MPX2200	AN1100/D
MHW709	EB107/D		EB128/D		AN1312/D
MHW710	EB107/D	MPM3003	AN1046/D		AN1313/D
MHW720	EB107/D	MPM3004	AN1120/D		AN1315/D
MHW801	AN1106/D	MPM3017	AN1319/D		AN1318/D
MHW808	EB107/D	MPN3401	AN753/D		AN1324/D
MHW820	EB107/D	MPN3402	AN753/D	MPX2700	AN1312/D
MHW851	AN1106/D	MPS650	AN1308/D		AN1313/D
MHW612	EB107/D	MPS750	AN1308/D		AN1315/D
MHW5122A	AN1107/D	MPS6519	EB48/D		AN1324/D
MHW5185	AN1107/D	MPS8099	AN1308/D	MPX5100	AN1304/D
MJ14003	AR450/D	MPS8599	AN1308/D		AN1305/D
MJ16004	AN952/D	MPSA56	AN1300/D		AN1307/D
MJ16008	AN952/D	MPSA06	AN1300/D		AN1318/D
MJ16012	AN952/D	MPSG1000	AN1076/D		AN1322/D
MJ16016	AN952/D		AN1078/D		AR502S/D
MJ16018	AN952/D	MPSW06	AN1300/D	MPX5100A	AR502S/D
MJE200	EB79/D		AN1308/D	MPX5100D	AR501S/D
MJE1123	AR514/D	MPSW56	AN1308/D		AR502S/D
MJE16106	EB85A/D	MPU6805	AN989/D	MPX7000	AN1303/D
MJE18004	AN1080/D	MPX10	AN935/D		AN1318/D
MJF15030	AN1308/D	MPX11	AN935/D	MPX7100	AN1303/D
MJF15031	AN1308/D	MPX12	AN935/D	MR506	AN1325/D
MJH6085	AR511/D	MPX50	AN935/D	MR2520L	AR450/D
MJH16006A	AN951/D	MPX50D	BF8401/D	MRD360	AN1016/D
MJH16106	EB85A/D	MPX100	AN935/D	MRD750	AN1120/D



# Device Cross Reference

MMRD821 .....	AN1016/D	MTP4N50E .....	AN1108/D	PCF8573 .....	AN1066/D
.....	AN1203/D	MTP4N90 .....	AN1080/D	RS232C .....	EB150/D
MRD3056 .....	AN1016/D	MTP7N20 .....	EB85A/D	RS422A .....	EB150/D
MRF50 .....	EB104/D	MTP8N50 .....	EB85A/D	RS423A .....	EB150/D
RF141G .....	AN1041/D	MTP8N50E .....	AN1108/D	RS485 .....	EB150/D
MRF150 .....	AR141/D	MTP10N10M .....	AN976/D	SC371016 J1850 .....	AN1212/D
MRF151G .....	AN1041/D	.....	AN1001/D	SG1525A .....	EB85A/D
MRF153 .....	AN1041/D	.....	AR160/D	SG1526 .....	EB85A/D
.....	AR176/D	MTP10N25 .....	EB85A/D	SN75172 .....	AN781A/D
MRF154 .....	AN1041/D	.....	EB141/D	SN75173 .....	AN781A/D
MRF155 .....	AN1041/D	MTP12N10 .....	AN1042/D	SN75174 .....	AN781A/D
MRF175G .....	AN1041/D	.....	AR157/D	SN75175 .....	AN781A/D
MRF176G .....	AN1041/D	MTP12N20 .....	EB85A/D	SN75176 .....	EB150/D
MRF227 .....	EB29/D	MTP12P10 .....	AN1042/D	TCAP2 .....	AN1120/D
MRF237 .....	AN955/D	MTP15N05 .....	AR164/D	TDA3301 .....	AN1044/D
MRF260 .....	EB90/D	MTP40N06M .....	AN1078/D	TDA3330 .....	AN1019/D
.....	EB93/D	MTP3055 .....	AN1102/D	TDA4601 .....	ANE402/D
MRF262 .....	EB90/D	MTP3055E .....	AN1102/D	TL431 .....	AN1108/D
.....	EB93/D	.....	EB126/D	.....	EB85A/D
MRF264 .....	EB93/D	MTP3055EL .....	AN1076/D	TL431CLP .....	AN1108/D
MRF422 .....	EB27A/D	.....	AN1102/D	TL494 .....	EB85A/D
MRF430 .....	AN1041/D	MTS102 .....	BF8401/D	TP1940 .....	AN438/D
MRF553 .....	AN938/D	MTW7N80E .....	AN1325/D	TP3400 .....	AN1038/D
MRF607 .....	EB29/D	MTW23N25E .....	AN1101/D	TP9383 .....	AN438/D
MRF630 .....	EB109/D	.....	AR341/D	.....	AN1037/D
MRF650 .....	AN1107/D	MUR105 .....	AR131/D	TPV375 .....	AN1028/D
MRF966 .....	AN925/D	MUR150 .....	EB407/D	TPV593 .....	AN1039/D
MRF1946A .....	AN955/D	MUR405 .....	AR131/D	TPV596 .....	AN1029/D
MRF2001 .....	EB89/D	MUR450 .....	EB407/D	TPV597 .....	AN1030/D
MS16 .....	AN801/D	MUR804PT .....	EB85A/D	TZA120 .....	AN1082/D
MTB23P06E .....	AN1317/D	MUR3015PT .....	EB85A/D	UAA1041 .....	AN428/D
MTB36N06E .....	AN1317/D	MUR3040PT .....	EB85A/D	UC3842A .....	AN1080/D
MTD10N05E .....	AR323/D	MUR8100 .....	AN952/D	.....	ANE424/D
MTH5N100 .....	AR326/D	MUR10010CT .....	EB85A/D	UC3843 .....	EB126/D
MTH7N50 .....	EB85A/D	MUR10015CT .....	EB85A/D	UC3843A .....	AN1080/D
MTH13N50 .....	EB85A/D	MUR20010CT .....	EB85A/D	UC3844 .....	AN1108/D
MTH15N20 .....	EB85A/D	MURH840 .....	AN1325/D	UC3844AN .....	AN1108/D
MTM15N40 .....	AR157/D	MV2115 .....	AN1207/D	UC3845 .....	AN1108/D
MTP2N50 .....	AN1090/D	P6KE30 .....	AR450/D	μA78S40 .....	AN920/D
MTP4N50 .....	AN929/D	PAL16R4-7 .....	APR11/D	V39MA2A .....	AR450/D
.....	EB85A/D	PAL22V10 .....	APR11/D	ZC94304 .....	ANE422/D









# Applications and Product Literature Selector Guide

## A/D and D/A Conversion

- \*AN559/D A Single Ramp Analog-to-Digital Converter
- AN587/D Analysis and Design of the Op Amp Current Source
- \*AN713/D Binary D/A Converters Can Provide BCD-Coded Conversion
- AN869/D Application Summary for the MC6805R2( )1 Single-Chip Microcomputer with A/D Converter
- \*AN877/D Precision Voltage References for the MC10315/MC10317 Flash A-D Converters
- AN900/D Using the M6805 Family On-Chip 8-bit A/D Converter
- AN1058/D Reducing A/D Errors in Microcontroller Applications
- AN1062/D Using the QSPI for Analog Data Acquisition
- AN1207/D The MC145170 in Basic HF and VHF Oscillators
- AN1211/D Interfacing DACs and ADCs to the NEURON IC
- AN1216/D Setback Thermostat Design Using the Neuron IC
- EB51/D Successive Approximation BCD A/D Converter
- EB155/D Analog to Digital Conversion with the Neuron Chip

*Additional information relevant to A/D and D/A Conversion may be found in the following Motorola documents:*

- ADCRM/AD Analog-to-Digital Converter Reference Manual
- BR1418/D Military Analog, Telecom and Special Functions Fact Sheet
- DL412/D Industrial Control Applications Manual
- SG96/D Linear and Interface Integrated Circuits Selector Guide & Cross Reference
- SG117/D Data Conversion Products
- SG169/D MOS Digital-Analog Integrated Circuits
- SGE102R1/D** CMOS System IC Selection Guide

## ASICs (Application Specific ICs)

- AN953/D Binary Addition/Subtraction and Binary/BCD Addition Utilizing Motorola's MCA2500 ECL Macrocell Array
- AN977/D Third Generation ECL Macrocell Arrays
- AN981/D Building Counters with Motorola's Macrocell Arrays
- \*AN989/D ASIC MPU6805 Standard Cell Interrupt Handling
- AN1093/D Delay and Timing Methods for CMOS ASICs
- AN1094/D Thermally Enhanced Quad Flat Packages
- AN1095/D Clock Distribution Techniques for HDC Series Arrays
- AN1096/D Guidelines for Using the Mustang™ ATPG System
- AN1099/D Test Methodology and Release Issues for HDC Series Gate Arrays
- AN1500/D IEEE Std. 1149.1 Boundary Scan for H4C™ Arrays
- AN1502/D Embedded RAM BIST
- AN1508/D High Frequency Design Techniques and Guidelines for Bipolar Gate Arrays
- AN1509/D ASIC Clock Distribution Using a Phase-Locked-Loop (PLL)
- AN1514/D H4CPlus™ Series 3.3 V/5 V Design Considerations
- AR108/D Macrocell Arrays: An Alternative to Custom LSI
- AR128/D Array-Based Logic Boosts System Performance
- AR306/D Densest Gate Arrays Ever from LSI Logic, Motorola
- AR307/D Jumbo High-Density Gate Arrays Score a Round of Industry Firsts
- AR308/D Motorola's Arrays Hit a New High: 80% Gate Utilization
- AR309/D High-Density ASIC Family Achieves 100k-Cell Arrays

**ASICs (Application Specific ICs) continued**

- AR310/D Software for Sea-of-Gates Arrays Places and Routes Over 70% of Available Gates
- AR512/D Gate Arrays Challenge Standard-Cell ASICs
- AR520/D Applications Specific MultiChip Modules
- AR524/D Pick the Right Package for Your Next ASIC Design

*Additional information relevant to ASICs (Application Specific ICs) may be found in the following Motorola documents:*

- BR165/D MCA800ECL MCA2500ECL Macrocell Array Design Manual
- BR334/D ASIC Semicustom Circuits
- BR449/D** Gate Arrays and Standard Cells
- BR746/D Cell Based Products – Questions and Answers
- BR916/D Packaging Manual for ASIC Arrays
- BR1400/D OACS (ASIC) – Open Architecture CAD System
- BR1409/D ECL300 Logic Array
- BR1417/D OACS 3.1M – New Generation Open Architecture CAD System
- BRE302S/D** Motorola's High Performance Macrocell Arrays – the MCA2900ETL
- BRE323/D** Your Complete Standard Cell Design Solution
- BRE368R1/D** MPU6805 Evaluation Board
- DL152/D MDA15 CMOS Standard Cell Data
- DL154/D MDA08 CMOS Standard Cell Data
- H4CDM/D H4C Series Design Reference Guide
- H4CPDM/D H4CPlus Series Design Reference Guide
- H4CPDMAD/D Supplement to H4CPlus Design Reference Guide
- HDCDM/D HDC Series Design Reference Guide
- MC92005UM/D MC92005 SBus Slave Interface Controller User's Manual
- MCA3ETLDM/D MCA3ETL Series Design Manual
- MCA10000DM/D MCA10000ECL Macrocell Array: MCA3 Series Design Manual
- SG138/D Commercial Plus and Mil/Aero Application IC & Discrete Selector Guide
- SG169/D MOS Digital-Analog Integrated Circuits
- SG367/D Semicustom Circuits
- SGE115/D** Motorola ASICs and CMOS Standard Cell Arrays
- SGE116/D** Motorola ASICs and CMOS Macrocell Arrays

**Audio Amplifiers**

- AN421/D** Semiconductor Noise Figure Considerations
- AN484A/D** Basic Design of Medium Power Audio Amplifiers (3 to 35 Watt)
- AN485/D** High-Power Audio Amplifiers with Short-Circuit Protection
- AN1042/D High Fidelity Switching Audio Amplifiers Using TMOS Power MOSFETs

- AN1081/D Minimize the "pop" in the MC34119 Low Power Audio Amplifier
- AN1308/D 100 and 200 Watt High Fidelity Audio Amplifiers Utilizing a Wideband Low Feedback Design

*Additional information relevant to Audio Amplifiers may be found in the following Motorola documents:*

- BR924/D Military Analog Lineup
- BR1413/D Military 35102 Sleep-Mode Op Amp
- BR1418/D Military Analog, Telecom and Special Functions Fact Sheet
- DL111/D Bipolar Power Transistor Data
- DL126/D Small-Signal Transistors, FETs and Diodes Device Data
- DL414/D FET Applications Manual
- SG96/D Linear and Interface Integrated Circuits Selector Guide & Cross Reference

**Automotive Applications**

- AN428/D Automotive Direction Indicator with Short Circuit Detection Using the UAA1041
- AN1067/D Pulse Generation and Detection with Microcontroller Units
- ANE007/D Automotive Multiplex Wiring – An Example
- AR267/D Moto Answers Back
- AR517/D High Resolution Position Sensor for Motion Control System
- EB126/D Ultra-Rapid Nickel-Cadmium Battery Charger
- EB409/D The MI-BUS and Product Family for Multiplexing Systems

*Additional information relevant to Automotive Applications may be found in the following Motorola documents:*

- BR470/D** Motorola Discretes – The Complete Solution
- BR477/D Smart Mover – Stepper Motors with Integrated Serial Bus Controller
- BR934/D Sensing Solutions from Motorola – Sensors for the Automotive Industry
- BR1305/D Linear Integrated Circuits: New Product Calendar
- BRE427R1/D** Automotive Semiconductors
- SG96/D Linear and Interface Integrated Circuits Selector Guide & Cross Reference

**Computer Systems**

- AN444/D An MC68040-based Zero Wait State Evaluation System
- AN451/D An MC68340-based Input/Output Processor Design

	MECL and M TTL
AN730A/X	A High Speed FIFO Memory Using the MECL MCM10143 Register File
*AN738/D	NBCD Sign and Magnitude Adder/Subtractor
*AN741/D	Interface Considerations for Numeric Display Systems
*AN742/D	A 200 MHz Autoranging MECL – Mc MOS Frequency Counter
*AN759/D	A CMOS Keyboard Data Entry System for Bus Oriented Memory Systems
AN770/D	Data Acquisition Networks with NMOS and CMOS
*AN806A/D	Operation of the MC14469
AN917/D	Reading and Writing in Floppy Disc Systems Using Motorola Integrated Circuits
AN994RE/D	32-bit Computer Design Using 68020/68881/68851
AN1050/D	Designing for Electromagnetic Compatibility (EMC) with HCMOS Microcontrollers
AN1051/D	Transmission Line Effects in PCB Applications
AN1061/D	Reflecting on Transmission Line Effects
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1207/D	The MC145170 in Basic HF and VHF Oscillators
AN1405/D	ECL Clock Distribution Techniques
AN1406/D	Designing with PECL (ECL at +5.0V)
AN1408/D	Power Dissipation for Active SCSI Terminators
AN1504/D	Metastability and the ECLinPS™ Family
APR10/D	DSP96002 Interface Techniques and Examples
*AR261/D	Multiprocessors Boost System Power
*AR275/D	Opus Systems' 88000 Workstation

*Additional Information relevant to Computer Systems may be found in the following Motorola documents:*

BR452/D	Motorola Development Support Guide
BR724/D	88open Sourcebook, Edition 4
BR1305/D	Linear Integrated Circuits: New Product Calendar
BR1331/D	Introducing Motorola's ALExIS Bus Interface Solutions
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
BR1333/D	Low Skew Clock Drivers and Programmable Delay Circuits
BR1409/D	ECL300 Logic Array
BRE147/D	Architectural Contrast: M68000 Family and the 8086/iAPX86
BRE150/D	M68000 vs. iAPX86 Benchmark Performance
DL155/D	Dynamic RAMs and Modules
DL156/D	Fast Static RAM – BiCMOS, CMOS and Module Data
SG169/D	MOS Digital-Analog Integrated Circuits
SG366/D	TTL, ECL, CMOS and Special Logic Circuits Selector Guide

	Applications
AN1213/D	16-bit DSP Servo Control with the MC68HC16Z1
ANE408/D	Logarithmic/Linear Conversion Routines for DSP56000/1
APR1/D	Digital Sine-Wave Synthesis Using the DSP56001/DSP56002
APR2/D	Digital Stereo 10-Band Graphic Equalizer Using the DSP56001
APR3/D	Fractional and Integer Arithmetic Using the DSP56000 Family of General-Purpose Digital Signal Processors
APR4/D	Implementation of Fast Fourier Transforms on Motorola's Digital Signal Processors
APR5/D	Implementation of PID Controllers on the Motorola DSP56000/DSP56001
APR6/D	Convolutional Encoding and Viterbi Decoding Using the DSP56001 with a V.32 Modem Trellis Example
APR7/D	Implementing IIR/FIR Filters with Motorola's DSP56000/DSP56001
APR8/D	Principles of Sigma-Delta Modulation for Analog-to-Digital Converters
APR9/D	Full-Duplex 32-kbit/s CCITT ADPCM Speech Coding on the Motorola DSP56001
APR10/D	DSP96002 Interface Techniques and Examples
APR11/D	DSP56001 Interface Techniques and Examples
APR12/D	Twin CODEC Expansion Board for the DSP56000 Application Development System
APR14/D	Conference Bridging in the Digital Telecomms Environment Using the Motorola DSP56000
APR15/D	Implementation of Adaptive Controllers on the Motorola DSP56000/DSP56001
APR401/D	Twin CODEC Expansion Board for the DSP56000 Application Development System
APR402/D	Low Cost Controller for DSP56001
APR404/D	G.722 Audio Processing on the DSP56100 Microprocessor Family
DC407/D	Interfacing MC68020 and MC68030 to DSP56001 Host Port
DCE406/D	Interface for MC68000 to DSP56001 Host Port

*Additional Information relevant to DSP may be found in the following Motorola documents:*

BR282/D	DSP56000 Technical Summary – 56-bit General Purpose Digital Signal Processor
BR297/D	Dr. Bub – DSP Electronic Bulletin Board
BR460/D	The European Blue Book, 1992 – Qualified Semiconductor Products



**Digital Signal Processing (DSP) continued**

BR517/D	DSP56000ADSx & DSP56KEMULTRCABL for DSP56000 Family Products
BR522/D	DSP320 to 56001 Software Summary
BR526/D	DSP56000CLASx Software Summary
BR541/D	DSP56KCCx DSP56000/DSP56001 C Cross Compiler – Software Summary
BR718/D	DSP56ADC16EVB Evaluation Board and Software
BR725/D	DSP96000CLASx Software Summary
BR749/D	DSP96000ADSx Application Development System
BR786/D	DSP56156ADSx Application Development System
BR911/D	Military Microprocessor Fact Sheet
BR912/D	The Military DSP56001 is Available Now
BR1105/D	DSP – Motorola's 16, 24 and 32-bit Digital Signal Processing Families
BR1402/D	Military DSP96002
DL411/D	Communications Applications Manual
DSP56KFAMUM/AD	DSP56000 Digital Signal Processor Family Manual
DSP56000UM/AD	DSP56000/DSP56001 Digital Signal Processor User's Manual
DSP56116UM/AD	DSP56116 Digital Signal Processor User's Manual
DSP96002UM/AD	DSP96002 IEEE Floating-Point Dual-Port Processor User's Manual
SG138/D	Commercial Plus and Mil/Aero Application IC & Discrete Selector Guide
SG146/D	Digital Signal Processors Update
SG416/D	Clock Driver Selector
TB324/D	Real Time Digital Signal Processing Applications with Motorola's DSP56000 Family (Mohamed El-Sharkawy, 1990)

**FET**

AN211A/D	Field Effect Transistors in Theory and Practice
AN220/D	FETs in Chopper and Analog Switching Circuits
AN462/D	FET Current Regulators – Circuits and Diodes
*AN845/D	New Power Bipolars Compare Favourably with FETs for Switching Efficiency
AN860/D	Power MOSFETs versus Bipolar Transistors
AN913/D	Designing with TMOS Power MOSFETs
AN918/D	Paralleling Power MOSFETs in Switching Applications
AN929/D	Insuring Reliable Performance from Power MOSFETs
AN976/D	A New High Performance Current Mode Controller Teams Up with Current Sensing Power MOSFETs

AN1000/D	SENSEFETs For High Frequency Applications
AN1001/D	Understanding SENSEFETs
AN1043/D	Spice Model for TMOS Power MOSFETs
AN1076/D	Speeding up Horizontal Outputs
AN1090/D	Understanding and Predicting Power MOSFET Switching Behavior
AN1101/D	One-Horsepower Off-Line Brushless Permanent Magnet Motor Drive
AN1102/D	Interfacing Power MOSFETs to Logic Devices
AN1120/D	Basic Servo Loop Motor Control Using the MC68HC05B6 MCU
AN1317/D	High-Current DC Motor Drive Uses Low On-Resistance Surface Mount MOSFETs
AN1320/D	300 Watt, 100 kHz Converter Utilizes Economical Bipolar Planar Power Transistor
AR141/D	Applying Power MOSFETs in Class D/E RF Power Amplifier Design
AR160/D	Lossless Current Sensing with SENSEFETs Enhances Motor Drive
AR175/D	A Power FET SPICE Model from Data Sheet Specs
AR326/D	High-Voltage MOSFETs Simplify Flyback Design
AR346/D	RF Power FETs: Their Characteristics and Applications
EB104/D	Get 600 Watts RF from Four Power FETs
EB123/D	A Simple Brush Type DC Motor Controller
EB124/D	MOSFETs Compete with Bipolars in Flyback Power Supplies
EB125/D	Testing Power MOSFET Gate Charge
EB128/D	Simple, Low-Cost Motor Controller
EB131/D	Curve Tracer Measurement Techniques for Power MOSFETs
EB141/D	Boost MOSFETs Drive Current in Solid State AC Relay
EB142/D	The MOSFET Turn-Off Device – A New Circuit Building Block

*Additional information relevant to FET may be found in the following Motorola documents:*

BR470/D	Motorola Discretes – The Complete Solution
BR904/D	MIL-Processed Devices: Technical Data
BR923/D	Discrete & Materials Technologies Group, Reliability Audit Report
BR1414/D	MIL-Processed Hermetic Power Discrete Semiconductors
DL126/D	Small-Signal Transistors, FETs and Diodes Device Data
DL135/D	TMOS Power MOSFET Transistor

**FET continued**

DL148/D	Discrete Military Operations Data
DL414/D	FET Applications Manual
<b>SG145E/D</b>	Small Signal FETs: Siliconix to Motorola Cross Reference
SG163/D	SOT-223 Surface Mount Products Selector Guide
SG265/D	Power MOSFETs Update
SG272/D	TO-247 Selector Guide
SG275/D	Surface Mount Packages, Small-Signal Operations

**Instrumentation and Control**

AN220/D	FETs in Chopper and Analog Switching Circuits
AN421/D	Semiconductor Noise Figure Considerations
AN431/D	Temperature Measurement and Display Using the MC68HC05B4 and the MC14489
<b>AN470/D</b>	Bipolar Chopper Transistors and Circuits
*AN541/D	Medium Scale Integration in the Numerical Control Field
*AN581/D	An MSI 500MHz Frequency Counter Using MECL and MTTL
*AN742/D	A 200MHz Autoranging MECL – CMOS Frequency Counter
*AN782/D	Interfacing and Controlling Digital Temperature Data Using the MC6800
AN885/D	A General Purpose Frequency Counter Using an M6805 HMOS/M146805 CMOS
*AN889/D	MC14500B Development System
AN923/D	800MHz Test Fixture Design
AN924/D	Measurement of Zener Voltage to Thermal Equilibrium with Pulsed Test Current
AN1050/D	Designing for Electromagnetic Compatibility (EMC) with HCMOS Microcontrollers
AN1058/D	Reducing A/D Errors in Microcontroller Applications
AN1065/D	Use of the MC68HC68T1 Real-Time Clock with Multiple Time Bases
AN1067/D	Pulse Generation and Detection with Microcontroller Units
AN1102/D	Interfacing Power MOSFETs to Logic Devices
AN1126/D	Evaluation Systems for Remote Control Devices on an Infrared Link
AN1304/D	Integrated Sensor Simplifies Bar Graph Pressure Gauge
AN1305/D	An Evaluation System for Direct Interface of the MPX5100 Pressure Sensor with a Microprocessor

AN1316/D	Frequency Output Conversion for MPX2000 Series Pressure Sensors
AN1405/D	ECL Clock Distribution Techniques
APR15/D	Implementation of Adaptive Controllers on the Motorola DSP56000/DSP56001
AR255/D	Simplified Remote Control Circuits
AR511/D	Biasing Solid State Amplifiers to Linear Operation
AR517/D	High Resolution Position Sensor for Motion Control System
BF8105/D	MC145026 and MC145027 Remote Control System
DC410/D	Fuzzy Logic – A New Approach to Embedded Control Solutions
EB48/D	A Time Base and Control Logic Subsystem for High-Frequency, High-Resolution
EB157/D	Creating Applications with the LonBuilder Multi-Function I/O Kit
EB159/D	Neuron Chip-based Installation of LonWorks Networks
EB409/D	The MI-BUS and Product Family for Multiplexing Systems

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*Additional Information relevant to Instrumentation and Control may be found in the following Motorola documents:*

BR332/D	Motorola Operational Amplifiers: Still Growing Strong
BR924/D	Military Analog Lineup
BR1413/D	Military 35102 Sleep-Mode Op Amp
<b>BRE414/D</b>	The MC34080 Series of J-FET Input Op Amps
<b>BRE415/D</b>	J-FET and Bipolar Operational Amplifiers – Linear Leader
<b>BRE417/D</b>	Motorola/TI Cross Reference Chart
DL412/D	Industrial Control Applications Manual
LONPROD/D	LonWorks Products 1992
SG96/D	Linear and Interface Integrated Circuits Selector Guide & Cross Reference
SG117/D	Data Conversion Products
SG169/D	MOS Digital-Analog Integrated Circuits
<b>SGE102R1/D</b>	CMOS System IC Selection Guide

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**Interfacing***see also Telecommunications*

AN442/D	Driving LCDs with M6805 Microprocessors
AN449/D	An MC68340 to M88000 MBUS Bus Translator
AN451/D	An MC68340-based Input/Output Processor Design



**Interfacing** continued

AN453/D Serial Peripheral Interface Device Emulation Routine for the MC68340

AN708A/D Line Driver and Receiver Considerations

\*AN741/D Interface Considerations for Numeric Display Systems

AN781A/D Revised Data-Interface Standards

\*AN782/D Interfacing and Controlling Digital Temperature Data Using the MC6800

\*AN801/D Using Input/Output Modules in Industrial Control Applications

AN864A/D Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs

AN991/D Using the Serial Peripheral Interface to Communicate Between Multiple Microcomputers

AN993/D Serial-to-Parallel Converter Using the MC68705P3

AN1016/D Infrared Sensing and Data Transmission Fundamentals

AN1061/D Reflecting on Transmission Line Effects

AN1066/D Interfacing the MC68HC05C5 SIOP to an I<sup>2</sup>C Peripheral

AN1082/D Simple Design for a 4-20mA Transmitter Interface Using a Motorola Pressure Sensor

AN1102/D Interfacing Power MOSFETs to Logic Devices

AN1123/D MCS3201 Floppy Disk Controller in MC68000 System

AN1126/D Evaluation Systems for Remote Control Devices on an Infrared Link

AN1203/D A Software Method for Decoding the Output from the MC14497/MC3373 Combination

AN1316/D Frequency Output Conversion for MPX2000 Series Pressure Sensors

AN1402/D MC10/100H00 Translator Family I/O SPICE Modelling Kit

AN1404/D ECLinPS Circuit Performance at Non-Standard V/H Levels

AN1406/D Designing with PECL (ECL at +5.0V)

AN1408/D Power Dissipation for Active SCSI Terminators

ANE007/D Automotive Multiplex Wiring – An Example

ANE405/D Bi-Directional Data Transfer Between MC68HC11 and MC6805L3 Using SPI

ANE415/D MC68HC11 Implementation of IEEE-488 Interface for DSP56000 Monitor

AR223/D SCSI Protocol and Controller Ease Bus Arbitration

AR266/D LCD Driver with Serial Interface

DC409/D FDDI Chip Set Interface to an 80486 System

EB406/D Getting Started with the FDDI ADS Board

EB409/D The MI-BUS and Product Family for Multiplexing Systems

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*Additional information relevant to interfacing may be found in the following Motorola documents:*

BR428/D Standard Digital Bus Interfaces

BR477/D Smart-Mover – Stepper Motors with Integrated Serial Bus Controller

BR1305/D Linear Integrated Circuits: New Product Calendar

BR1331/D Introducing Motorola's ALE<sub>XiS</sub> Bus Interface Solutions

BR1332/D Logic Integrated Circuits Division: New Product Calendar – Fourth Quarter, 1992

BR1415/D Military Telecom Special Functions

DL411/D Communications Applications Manual

DL412/D Industrial Control Applications Manual

MC6801RM/AD2 MC6801 8-bit Single-Chip Microcomputer Reference Manual

SG96/D Linear and Interface Integrated Circuits Selector Guide & Cross Reference

SG117/D Data Conversion Products

SG169/D MOS Digital-Analog Integrated Circuits

TB316/D Single- & Multi-Chip MCU Interfacing (Lipovski, 1988)

TB318/D Microprocessor Systems Design: 68000 Hardware, Software and Interfacing (Clements, 1987)

**Logic****CMOS**

AN450/D IC Design: A Statistical Approach to Electromigration

\*AN738/D NBCD Sign and Magnitude Adder/Subtractor

\*AN741/D Interface Considerations for Numeric Display Systems

\*AN742/D A 200MHz Autoranging MECL – CMOS Frequency Counter

\*AN753/D Scanning Logic for RF Scanner-Receivers Using CMOS Integrated Circuits

\*AN759/D A CMOS Keyboard Data Entry System for Bus Oriented Memory Systems

AN770/D Data Acquisition Networks with NMOS and CMOS

\*AN806A/D Operation of the MC14469

AN1091/D Low Skew Clock Drivers and their System Design Considerations

AN1102/D Interfacing Power MOSFETs to Logic Devices

AN1400/D MC10/100H640 Clock Driver Family I/O SPICE Modelling Kit

**Logic:** CMOS continued

- AN1401/D Using SPICE to Analyze the Effects of Board Layout on System Skew When Designing with the MC10/100H640 Family of Clock Drivers
- AN1402/D MC10/100H00 Translator Family I/O SPICE Modelling Kit
- AN1403/D FACT I/O Model Kit
- AN1406/D Designing with PECL (ECL at +5.0V)
- AN1408/D Power Dissipation for Active SCSI Terminators
- AR300/D The Hidden Dangers of Electrostatic Discharge – ESD

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*Additional information relevant to CMOS  
may be found in the following Motorola documents:*

- BR460/D The European Blue Book, 1992 – Qualified Semiconductor Products
- BR1331/D Introducing Motorola's ALEIS Bus Interface Solutions
- BR1332/D Logic Integrated Circuits Division: New Product Calendar
- BR1407/D 3.3 Volt Logic & Interface Circuits
- BRE378/D** UnitPAK Packaging
- DL129/D High Speed CMOS Logic Data
- DL131/D CMOS Logic Data
- DL138/D FACT Data
- SG138/D Commercial Plus and Mil/Aero Application IC & Discrete Selector Guide
- SG366/D TTL, ECL, CMOS and Special Logic Circuits Selector Guide
- SGE102R1/D** CMOS System IC Selection Guide

**ECL**

- \*AN504/D The MC1600 Series MECL III Gates
- AN556/D Interconnection Techniques for Motorola's MECL 10,000 Series Emitter Coupled Logic
- AN567/D MECL Positive and Negative Logic
- \*AN579/D Testing MECL 10,000 Integrated Logic Circuits
- \*AN581/D An MSI 500MHz Frequency Counter Using MECL and MTTL
- \*AN700/D Simulate MECL System Interconnections with a Computer Program
- AN701/D Understanding MECL 10,000 DC and AC Data Sheet Specifications
- AN720/D Interfacing with MECL 10,000 Integrated Circuits
- AN726/D Bussing with MECL 10,000 Integrated Circuits
- AN730A/X A High Speed FIFO Memory Using the MECL MCM10143 Register File
- \*AN742/D A 200MHz Autoranging MECL – CMOS Frequency Counter

- \*AN774/D A Simple High Speed Bipolar Microprocessor Illustrates System Design and Microprogram Techniques
- AN1051/D Transmission Line Effects in PCB Applications
- AN1061/D Reflecting on Transmission Line Effects
- AN1092/D Driving High Capacitance DRAMs in an ECL System
- AN1400/D MC10/100H640 Clock Driver Family I/O SPICE Modelling Kit
- AN1401/D Using SPICE to Analyze the Effects of Board Layout on System Skew when Designing with the MC10/100H640 Family of Clock Drivers
- AN1402/D MC10/100H00 Translator Family I/O SPICE Modelling Kit
- AN1404/D ECLinPS Circuit Performance at Non-Standard VIH Levels
- AN1405/D ECL Clock Distribution Techniques
- AN1406/D Designing with PECL (ECL at +5.0V)
- AN1503/D ECLinPS™ I/O SPICE Modelling Kit
- AN1504/D Metastability and the ECLinPS™ Family
- AR519/D Low-Skew Clock Drivers: Which Type Is Best?

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*Additional information relevant to ECL  
may be found in the following Motorola documents:*

- BR347/D Bipolar Logic Circuits – Quality & Reliability
- BR378/D Unit/PakSM Packing
- BR1330/D ECLinPS Lite Single Gate ECL Devices
- BR1332/D Logic Integrated Circuits Division: New Product Calendar
- BR1333/D Low Skew Clock Drivers and Programmable Delay Circuits
- BR1409/D ECL300 Logic Array
- BRE372/D** ECLIPS Mini Data Book
- BRE378/D** UnitPAK Packaging
- DL122/D MECL Device Data
- DL140/D ECLinPS Device Data
- DL145/D Military MECL Family Data
- DL413/D Radio, RF and Video Applications Manual
- HB205/D MECL System Design Handbook
- SG138/D Commercial Plus and Mil/Aero Application IC & Discrete Selector Guide
- SG366/D TTL, ECL, CMOS and Special Logic Circuits Selector Guide

**TTL**

- \*AN581/D An MSI 500MHz Frequency Counter Using MECL and MTTL
- AN1051/D Transmission Line Effects in PCB Applications
- AN1061/D Reflecting on Transmission Line Effects

**Logic:** TTL continued

AN1091/D	Low Skew Clock Drivers and Their System Design Considerations
AN1102/D	Interfacing Power MOSFETs to Logic Devices
AN1400/D	MC10/100H640 Clock Driver Family I/O SPICE Modelling Kit
AN1401/D	Using SPICE to Analyze the Effects of Board Layout on System Skew When Designing with the MC10/100H640 Family of Clock Drivers
AN1402/D	MC10/100H00 Translator Family I/O SPICE Modelling Kit
AN1406/D	Designing with PECL (ECL at +5.0V)

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**Additional Information relevant to TTL  
may be found in the following Motorola documents:**

BR347/D	Bipolar Logic Circuits – Quality & Reliability
BR378/D	Unit/PakSM Packing
BR460/D	The European Blue Book, 1992 – Qualified Semiconductor Products
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
<b>BRE378/D</b>	UnitPAK Packaging
DL121/D	FAST and LS TTL Data
DL138/D	FACT Data
DL142/D	Military ALS/FAST/LS/TTL Data
SG138/D	Commercial Plus and Mil/Aero Application Military IC & Discrete Selector Guide
SG366/D	TTL, ECL, CMOS and Special Logic Circuits Selector Guide

**Memories**

AN429/D	MC68332 QSPI Interface for the MCM2814 EEPROM
AN432/D	128K byte Addressing with the M68HC11
AN434/D	Serial Bootstrap for the RAM and EEPROM1 of the MC68HC05B6
AN439/D	Bootling an MC68040 from a Single Byte-Wide EEPROM
AN441/D	MC68HC05E0 EPROM Emulator
AN444/D	An MC68040-based Zero Wait State Evaluation System
AN446/D	MCM2814 Gang-Programmer Using an MC68HC805B6
AN447/D	An MC88100/MC88200 20/25/33MHz System DRAM Design
AN447A/X	Appendix to AN447/D: "An MC88100/MC88200 20/25/33MHz System DRAM Design"
AN452/D	Using the MC68HC11K4 Memory Mapping Logic
*AN550/D	Programming the MCM5003/5004 Programmable Read Only Memory

AN730A/X	A High Speed FIFO Memory Using the MECL MCM10143 Register File
*AN740/D	The Design of an N-Channel 16K x 16 Bit Memory System for the PDP-11
*AN805/D	The 5 Volt, 64K Dynamic RAM Is Here, So Is the 32K, So Is the 16K!!!
*AN816/D	Software Refreshed Memory Card for the MC68000
*AN838/D	High Performance Memory Design Technique for the MC68000
*AN909/D	MCM2833 Functional Description
AN941/D	A 2.0MHz MC68B09E System with Transparent Refresh of Dynamic RAM
AN971/D	Avoiding Bus Contention in Fast Access RAM Designs
AN973/D	Avoiding Data Errors with Fast Static RAMs
*AN984/D	25MHz Logical Cache for an MC68020
AN986/D	Page, Nibble, and Static Column Modes: High-Speed, Serial-Access Options on 1M-Bit + DRAMs
AN987/D	DRAM Refresh Modes
AN1051/D	Transmission Line Effects in PCB Applications
AN1059/D	Pseudo Static RAM Simplifies Interfacing with Microprocessors
AN1061/D	Reflecting on Transmission Line Effects
AN1063/D	DRAM Controller for the MC68340
AN1092/D	Driving High Capacitance DRAMs in an ECL System
AN1124/D	1 Meg to 4 Meg DRAM Upgrading
AN1125/D	DRAM Interface to the MC8820M Bus
AN1127/D	High Speed DRAM Design for the 40MHz MC68EC030
AN1129/D	Effect of Cache Memory and Latency on MC88100 Performance
AN1214/D	MC88110 64-bit External Bus Interface to 16-bit EPROM
AN1223/D	A Zero Wait State Secondary Cache for Intel's Pentium™
AN1502/D	Embedded RAM BIST
APR11/D	DSP56001 Interface Techniques and Examples
AR241/D	Building Fast SRAMs with No Process 'Tricks'
*AR248/D	Memory Management in the 68030 Microprocessor
AR256/D	Motorola's Radical SRAM Design Speeds Systems 40%
*AR257/D	Maximize Performance by Choosing Best Memory
AR258/D	High Frequency System Operation Using Synchronous SRAMs
AR260/D	Enhancing System Performance Using Synchronous SRAMs

**Memories** continued

- AR270/D Designing a Cache for a Fast Processor
- ARE001/D** High-Speed Components and a Cache Memory Lower Access Times
- DC001/D Virtual Memory Using the MC68000 and the MC68451
- EB162/D Programming Tips (MC88110)
- EB163/D Running the MC88110 in Lockstep
- EB164/D Interrupt Latency in the MC88110
- EB165/D Hardware Implications of xmem as a st followed by a ld
- EB404/D "Memories Are Made of This" ... a Look at Memory Considerations for Smart Card Applications

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*Additional Information relevant to Memories may be found in the following Motorola documents:*

- BR905/D Military Fast Static RAM Fact Sheet
- BR915/D The Military 32K x 8 is Available Now
- BR1100/D Semiconductor Products Sector Memory Products Reliability and Quality Report
- BRE306R1/D** Monolithic Diode Arrays
- DL122/D MECL Device Data
- DL155/D Dynamic RAMs and Memory Modules
- DL156/D Fast Static RAM - BiCMOS, CMOS and Module Data
- MC88200UM/AD MC88200 Cache/Memory Management Unit User's Manual
- SG138/D Commercial Plus and Mil/Aero Application IC & Discrete Selector Guide
- SG171/D Fast Static RAM Update
- SG172/D Dynamic kRAM Update
- SG366/D TTL, ECL, CMOS and Special Logic Circuits Selector Guide
- SGE102R1/D** CMOS System IC Selection Guide

**Microprocessors****8-bit MPU/MCU**

- AN427/D MC68HC11 EEPROM Error Correction Algorithms in C
- AN431/D Temperature Measurement and Display Using the MC68HC05B4 and the MC14489
- AN432/D 128K byte Addressing with the M68HC11
- AN433/D TV On-Screen Display Using the MC68HC05T1
- AN434/D Serial Bootstrap for the RAM and EEPROM1 of the MC68HC05B6
- AN440/D MC68HC805B6 and MC68HC705B5 Serial/Parallel Programming Module
- AN441/D MC68HC05E0 EPROM Emulator
- AN442/D Driving LCDs with M6805 Microprocessors

- AN446/D MCM2814 Gang-Programmer Using an MC68HC805B6
- AN448/D "FLOF" Teletext using M6805 Microcontrollers
- AN452/D Using the MC68HC11K4 Memory Mapping Logic
- AN456/D Using PCbug11 as a Diagnostic Aid for Expanded Mode M68HC11 Systems
- AN458/D A Self-Test Approach for the MC68HC11A/E
- AN459/D A Monitor for the MC68HC05E0
- AN460/D An RDS Decoder Using the MC68HC05E0
- \*AN797/D MC6801/03 Port Expansion
- \*AN807/D Special Considerations in Using the MC6801 Interrupt Capabilities
- \*AN817/D Asynchronous Communications for the MC68000 Using the MC6850
- \*AN820/D Hardware Considerations for Direct Memory Access Using the MC6809 Microprocessor Unit and MC6844 DMA Controller
- \*AN852/D Monitor for the MC146805G2L1 Microcomputer
- AN857/D MC68705P3/R3/U3 8-bit EPROM Microcomputer Programming Module
- AN864A/D Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs
- \*AN865/D The MC6809/MC6809E SYNC Instruction
- \*AN866/D Vectoring the Device Using Interrupt SYNC Acknowledge with the MC6809/MC6809E
- AN885/D Acknowledge with the MC6809/MC6809E
- \*AN888/D Monitor for the MC146805F2L1 Microcomputer
- AN892/D A Dual Processor System, Using Two MC6809E MPUs on a Common Bus
- AN894A/D User Considerations for MC146818 Real Time Clock Applications
- AN900/D Using the M6805 Family On-Chip 8-bit A/D Converter
- AN902/D A Zero-Crossing Application for the M6805 HMOS Family
- AN906A/D Self-Programming the MC68701 and the MC68701U4
- AN910/D Self-Contained Self-Check Unit for M6805 Family Single-Chip Microcomputers
- AN940/D Telephone Dialing Techniques Using the MC6805
- AN941/D A 2.0MHz MC68B09E System with Transparent Refresh of Dynamic RAM
- AN942/D MC68704P2 8-bit EPROM Microcomputer Programming Module
- AN966/D MC68HC805C4 8-bit EPROM Microcomputer Programming Module
- AN974/D MC68HC11 Floating-Point Package
- AN991/D Using the Serial Peripheral Interface to Communicate Between Multiple Microcomputers



**Microprocessors: 8-bit MPU/MCU continued**

AN993/D	Serial-to-Parallel Converter Using the MC68705P3	AN1316/D	Frequency Output Conversion for MPX2000 Pressure Series
AN997/D	CONFIG Register Issues Concerning the M68HC11 Family	ANE404/D	An Extended MC146805E2 CBUG05 System Using the MC68HC25
AN1009/D	Programming the MC1468705F2 EPROM Microcomputer Unit (MCU)	ANE405/D	Bi-Directional Data Transfer Between MC68HC11 and MC6805L3 Using SPI
AN1010/D	MC68HC11 EEPROM Programming from a Personal Computer	ANE413/D	MC146805G2 to MC68HC05C4 Conversion
AN1011/D	MC146805G2 to MC68HC05C4 Conversion	ANE416/D	MC68HC05B4 Radio Synthesizer
AN1050/D	Designing for Electromagnetic Compatibility (EMC) with HCMOS Microcontrollers	ANE418/D	MC68HC805B6 Low-Cost EEPROM Microcomputer Programming Module
AN1055/D	M6805 16-bit Support Macros	ANE420/D	Monitor Program for the MC68HC05B6 Microcomputer Unit
AN1057/D	Selecting the Right Microcontroller Unit	ANE421/D	MC68HC704P4 8-bit EPROM Microcomputer Programming Module
AN1058/D	Reducing A/D Errors in Microcontroller Applications	ANE422/D	An Application Note on a MC68HC04 Based Intruder Deterrent
AN1060/D	MC68HC11 Bootstrap Mode	ANE425/D	Use of the MC68HC68T1 RTC with M6805 Microprocessors
AN1064/D	Use of Stack Simplifies M68HC11 Programming	*AR264/D	Hi-Tech Encoder
AN1065/D	Use of the MC68HC68T1 Real-Time Clock with Multiple Time Bases	<b>BF8401/D</b>	Temperature and Pressure Measurement with MC6805
AN1066/D	Interfacing the MC68HC05C5 SIOP to an I <sup>2</sup> C Peripheral	DC410/D	Fuzzy Logic – A New Approach to Embedded Control Solutions
AN1067/D	Pulse Generation and Detection with Microcontroller Units	EB408/D	MC68HC705T3 Bootloader
AN1091/D	Low Skew Clock Drivers and Their System Design Considerations	<hr/>	
AN1097/D	Calibration-Free Pressure Sensor System	<i>Additional information relevant to 8-bit MPU/MCU may be found in the following Motorola documents:</i>	
AN1102/D	Interfacing Power MOSFETs to Logic Devices	ADCRM/AD	Analog-to-Digital Converter Reference Manual
AN1120/D	Basic Servo Loop Motor Control Using the MC68HC05B6 MCU	BR261/D	8/16/32-bit Microcontrollers from Motorola
AN1122/D	Running the MC44802A PLL Circuit	BR266/D	M68HC11EVM Evaluation Module
AN1203/D	A Software Method for Decoding the Output from the MC14497/MC3373 Combination	BR278/D	M68HC11EVB Evaluation Board
AN1212/D	J1850 Multiplex Bus Communications Using the MC68HC705C8 and the MC68HC58H1850 Communications Interface (JCI)	BR285/D	M68701EVM Evaluation Module
AN1215/D	PID Routines for HC11K4 and HC11N4 Microcontrollers	BR291/D	M68705EVM Evaluation Module
AN1218/D	HC05 to HC08 Optimization	BR295/D	M68HC05EVM Evaluation Module
AN1226/D	Use of the 68HC705C8A in Place of 68HC705C8	BR411/D	The M68HC11 Microcontroller Family
AN1227/D	Using 9346 Series Serial EEPROMs with 6805 Series Microcontrollers	BR433/D	M68HC05 8-bit Microcontrollers. The Home of the Industry Standard Microcontroller
AN1228/D	Interfacing the HC05 MCU to the MC145051 A/D Converter	<b>BR452/D</b>	Motorola Development Support Guide
AN1305/D	An Evaluation System for Direct Interface of the MPX5100 Pressure Sensor with a Microprocessor	BR458/D	MC68HC05D9 8-bit Microcomputer with PWM Outputs and LED Drive: Technical Summary
AN1311/D	Software for an 8-bit Microcontroller Based Brushed DC Motor Drive	BR467/D	MC68HC705C9/D9 8-bit Microcontroller Unit – Technical Summary
		BR527/D	MC146805F2 Technical Summary
		BR568/D	MCU Freeware
		BR597/D	MC68HC05P1 Technical Summary
		BR599/D	MC68HC05B4 Technical Summary
		BR706/D	M68HC11F1EVM Evaluation Module
		BR713/D	MC68HC05M4 Technical Summary
		BR730/D	M68HC05PGMR Programmer Board
		BR735/D	M68HC05P8EVS CSIC Evaluation System
		BR736/D	M68HC11EVB Universal Evaluation Board
		BR748/D	M68HC711D3PGMR Programmer Board



### Microprocessors: 8-bit MPU/MCU continued

BR751/D	MC68HC711K4 Technical Summary
BR764/D	M68HC05 CSIC Portfolio
BR774/D	MC68HC11L6 Technical Summary
BR775/D	MC68HC711E9 Technical Summary
BR911/D	Military Microprocessor Fact Sheet
BR913/D	The Military 68HC11A0 and 68HC11A1 Are Available Now
BR922/D	Military MCU — 68HC811E2
BR1111/D	M68HC705J2/P9PGMR Programmer Board
BR1112/D	M68(HC)05 Customer Specified Integrated Circuit (CSIC) Microcontroller Unit (MCU) Literature
BR1113/D	M68HC705B5PGMR Programmer Board
BR1116/D	Advanced Microcontroller Unit (AMCU) Literature
BR1310/D	Our Low-Cost 68HC05 CSICs Can Take Your Designs to New Heights
BRE289/D	MC68HC811A2 Technical Summary
<b>BRE368R1/D</b>	MPU6805 Evaluation Board
<b>BRE435/D</b>	M1468705EVM Evaluation Module
<b>BRE529/D</b>	MC146805G2 Technical Summary
<b>BRE586/D</b>	MC68HC811E2 Technical Summary
DL408/D	8-bit MCU Applications Manual
DL411/D	Communications Applications Manual
<b>DLE404/D</b>	M6804 MCU Manual
HC711D3EVB/AD1	M68HC711D3EVB Evaluation Board User's Manual
HC711D3PGMR/AD1	M68HC11711D3PGMR Programmer Board User's Manual
M68HC05AG/AD	M68HC05 Applications Guide
M68HC05P9EVS/D1	M68HC05P9EVS Manual
M68HC11RM/AD	M68HC11 Reference Manual
M68HC16PN01/D	Transporting M68HC11 Code to M68HC16 Devices
M68PCBUG11/D2	M68HC11 PCbug11 User's Manual
M6805UM/AD3	M6805 HMOS / M146805 CMOS Family User's Manual
M6809PM/AD	MC6809-MC6809E Microprocessor Programming Manual
MC68HC05CxRG/AD	MC68HC05Cx HCMOS Single-Chip Microcontrollers Programming Reference Guide
MC68HC11A8RG/AD	MC68HC11A8 Programming Reference Guide
MC68HC11D3RG/AD	MC68HC11D3/MC68HC711D3 Programming Reference Guide
MC68HC11E9RG/AD	MC68HC11E9 Programming Reference Guide
MC68HC11F1RG/AD	MC68HC11F1 Programming Reference Guide
MC68HC11K4RG/AD	MC68HC11K4/MC68HC711K4 Programming Reference Guide
MC68HC11KA4RG/AD	MC68HC11KA4/MC68HC711KA4 Programming Reference Guide
MC68HC11L6RG/AD	MC68HCL6/MC68HC711L6 Programming Reference Guide
MC68HC811E2RG/D	MC68HC811E2 Programming Reference Guide

MCCIRM/AD	Multichannel Communication Interface Reference Manual
SG138/D	Commercial Plus and Mil/Aero Application IC & Discrete Selector Guide
SG165/D	CSIC Microcontrollers Update
SG166/D	Advanced Microcontroller Division Update
SG173/D	CSIC Modular Development Tools Update
<b>SGE102R1/D</b>	CMOS System IC Selection Guide
TB301/D	Basic Microprocessors and the 6800 (Bishop, 1979)
TB303/D	Using Microprocessors and Microcomputers: The Motorola Family (Greenfield and Wray, Rev. 1, 1988)
TB309/D	Programming the 6809 (Zaks & Labiak, 1982)
TB316/D	Single- & Multi-Chip MCU Interfacing (Lipovski, 1988)
TB327/D	Using Small Microcontrollers (Sibigtroth, 1992)

### 16-bit MPU/MCU

AN461/D	An Introduction to the HC16 for HC11 Users
*AN802/D	Interconnections of the DS14500A ICU to the Motorola Mounting System Boards
*AN810/D	Dual 16-bit Ports for the MC68000 Using Two MC6821s
*AN815/D	Colour Graphics for the MC68000 Using the MC6847
*AN819/D	Prioritized Individually Vectored Interrupts for Multiple Peripheral Systems with the MC68000
AN854/D	The MC68230 Parallel Interface/Timer Provides an Effective Printer Interface
AN897/D	MC68008 Minimum Configuration System
AN899/D	A Terminal Interface, Printer Interface and Background Printer for an MC68000-Based System Using the MC68681 DUART
*AN996/D	MC68010 Microprocessor Prototype Board
AN1008/D	MC68824 Token Bus Controller to MC68010 Interface
AN1050/D	Designing for Electromagnetic Compatibility (EMC) with HCMOS Microcontrollers
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1123/D	MCS3201 Floppy Disk Controller in MC68000 System
AN1213/D	16-bit DSP Servo Control with the MC68HC16Z1
AN1214/D	MC88110 64-bit External Bus Interface to 16-bit EPROM
AN1217/D	Interfacing to the MC88110
APR402/D	Low Cost Controller for DSP56001
AR208/D	Design Philosophy Behind Motorola's MC68000
*AR216/D	Multiprocessor Architecture Tunes In to Transaction Processing

**Microprocessors: 16-bit MPU/MCU continued**

*AR226/D	Designing with the MC68008 Microprocessor
AR233/D	Software Links Math Chip to M68000 Family $\mu$ Ps
AR235/D	MC68000 Microprogrammed Architecture
AR243/D	A Comparison of M68000 Family Processors
*AR267/D	Moto Answers Back
DCE406/D	Interface for MC68000 to DSP56001 Host Port
EB164/D	Interrupt Latency in the MC88110

**Additional information relevant to 16-bit MPU/MCU  
may be found in the following Motorola documents:**

BR231/D	M68000 Family Technical Literature
BR259/D	MC68008 Technical Summary
BR261/D	8/16/32-bit Microcontrollers from Motorola
BR275/D	MC68HC000 Technical Summary
<b>BR452/D</b>	Motorola Development Support Guide
BR460/D	The European Blue Book, 1992 – Qualified Semiconductor Products
BR476/D	Power to Perform – the M68HC16 Microcontroller
BR911/D	Military Microprocessor Fact Sheet
BR1116/D	Advanced Microcontroller Unit (AMCU) Literature
BR1333/D	Low Skew Clock Drivers and Programmable Delay Circuits
<b>BRE147/D</b>	Architectural Contrast: M68000 Family and the 8086/iAPX86
<b>BRE150/D</b>	M68000 vs. iAPX86 Benchmark Performance
CPU16RM/AD	M68HC16 Family Reference Manual
DL409/D	16/32-bit Application Manual
M68HC16PN01/D	Transporting M68HC11 Code to M68HC16 Devices
M6809PM/AD	MC6809-MC6809E Microprocessor Programming Manual
M68000UM/AD	M68000 8-/16-/32-bit Microprocessors User's Manual, Eighth Edition
MC68HC16Z1UM/AD	MC68HC16Z1 User's Manual
SG138/D	Commercial Plus and Mil/Aero Application IC & Discrete Selector Guide
SG166/D	Advanced Microcontroller Division Update
TB303/D	Using Microprocessors and Microcomputers: The Motorola Family (Greenfield and Wray, Rev. 1, 1988)
TB318/D	Microprocessor Systems Design: 68000 Hardware, Software and Interfacing (Clements, 1987)
TB320/D	The M68000 Family. Volume 1: Architecture, Addressing Modes and Instruction Set (Hilf & Nausch, 1989)
TB322/D	The M68000 Family. Volume 2: Applications and the M68000 Devices
TB323/D	The 68000 Book (Southern, 1990)

**32-bit MPU/MCU**

AN429/D	MC68332 QSPI Interface for the MCM2814 EEPROM
AN430/D	Adding Floating Point Support to an MC68030 High Performance System
AN435/D	MC68040 Benchmark Board
AN437/D	Using the MC68332 Periodic Interrupt Timer
AN439/D	Bootling an MC68040 from a Single Byte-Wide EEPROM
AN444/D	An MC68040-based Zero Wait State Evaluation System
AN447/D	An MC88100/MC88200 20/25/33MHz System DRAM Design
AN447A/D	Appendix to AN447/D: "An MC88100/MC88200 20/25/33MHz System DRAM Design"
AN449/D	An MC68340 to M88000 MBUS Bus Translator
AN451/D	An MC68340-based Input/Output Processor Design
AN453/D	Serial Peripheral Interface Device Emulation Routine for the MC68340
AN455/D	Using the Table Interpolation Features of the CPU32
AN457/D	Providing a Real-time Clock for the MC68302
*AN972/D	Platform Boards for Development of MC68030-Based Systems
AN994RE/D	32-bit Computer Design Using 68020/68881/68851
AN1008/D	MC68824 Token Bus Controller to MC68010 Interface
AN1012/D	A Discussion of Interrupts for the MC68000
AN1015/D	MC68020 Minimum System Configuration
AN1051/D	Transmission Line Effects in PCB Applications
AN1061/D	Reflecting on Transmission Line Effects
AN1062/D	Using the QSPI for Analog Data Acquisition
AN1063/D	DRAM Controller for the MC68340
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1125/D	DRAM Interface to the MC88200 M Bus
AN1127/D	High Speed DRAM Design for the 40MHz MC68EC030
AN1129/D	Effect of Cache Memory and Latency on MC88100 Performance
AN1200/D	Configuring the M68300 Family Time Processing Unit (TPU)
AN1310/D	Using the MC68332 Microcontroller for AC Induction Motor Control
AN1401/D	Using SPICE to Analyze the Effects of Board Layout on System Skew When Designing with the MC10/100H640 Family of Clock Drivers

**Microprocessors: 32-bit MPU/MCU continued**

AN1405/D ECL Clock Distribution Techniques  
**ANE009/D** Register Display Program for the MC68881/MC68882  
 ANE426/D An MC68030 32-bit High Performance Minimum System  
 AR217/D The Motorola MC68020  
 \*AR225/D Testing Approaches in the MC68020  
 \*AR232/D The MC68020 32-bit MPU: Opening New Application Doors  
 \*AR242/D A Benchmark Comparison of 32-bit Microprocessors  
 \*AR243/D A Comparison of M68000 Family Processors  
 \*AR248/D Memory Management in the 68030 Microprocessor  
 \*AR253/D Extra Functions and Higher Speed Push Microprocessor to Top  
 \*AR259/D As Many 68020s to Sell in 1988 as 80386s  
 \*AR267/D Moto Answers Back  
 AR270/D Designing a Cache for a Fast Processor  
 \*AR273/D The 88000 Now  
 \*AR275/D Opus Systems' 88000 Workstation  
 AR350/D Adapt Non-ISDN Terminals to ISDN Data Rates  
 AR519/D Low-Skew Clock Drivers: Which Type Is Best?  
 DC407/D Interfacing MC68020 and MC68030 to DSP56001 Host Port  
 DC408/D MC88110 Single Stepping Code Example  
 DCE402/D MC68030 25MHz Benchmarking Board  
 DCE403/D Interfacing 25MHz MC68030 to a 20MHz MC68882  
 DCE404/D Hardware Trap for MC68000  
 EB116/D Chip-Select Generation for a 33.33MHz MC68030 Microprocessor and a 33.33MHz MC68882 Floating-Point Coprocessor  
 EB117/D MC88100 P-Bus Flexibility Using PCE  
 EB162/D Programming Tips  
 EB163/D Running the MC88110 in Lockstep  
 EB164/D Interrupt Latency in the MC88110  
 EB165/D Hardware Implications of xmem as a st followed by a ld  
 TPUPN00/D Using the TPU Function Library and TPU Emulation Mode  
 TPUPN01/D Queued Output Match TPU Function (QOM)

*Additional information relevant to 32-bit MPU/MCU may be found in the following Motorola documents:*

BR030/D The World Turns 030  
 BR231/D M68000 Family Technical Literature

BR261/D 8/16/32-bit Microcontrollers from Motorola  
**BR452/D** Motorola Development Support Guide  
 BR460/D The European Blue Book, 1992 – Qualified Semiconductor Products  
 BR461/D M68000/M68000 Family Fact Sheet  
 BR469/D MC68302 Development Support – Technical Summary  
 BR473/D M68EC020EVM Evaluation Module  
 BR508/D MC68030 Technical Summary  
 BR583/D HYPERmodule Family Product Overview  
 BR588/D MC88100 Technical Summary  
 BR589/D MC88200 Technical Summary  
 BR729/D The 68K Source – Third Party Vendor Catalog (USA) for the 68000 Family of Microprocessors  
 BR733/D MC68040 Fact Sheet  
 BR734/D M68332EVS Evaluation System  
 BR742/D M68000 Family Surface-Mount Packaging Update  
 BR752/D MC68340 Product Brief  
 BR753/D M68340EVS Product Brief  
 BR755/D MC68331 Technical Summary  
 BR756/D MC68332 32-bit Microcontroller – Technical Summary  
 BR911/D Military Microprocessor Fact Sheet  
 BR919/D Military Microprocessors – Motorola's 68030 and 68882  
 BR1109/D 68EC0x0 Microprocessor Family Software-Compatible MPUs for Embedded Control  
 BR1114/D 68300 Integrated Microprocessor Family  
 BR1115/D 68000 Microprocessor Family  
 BR1116/D Advanced Microcontroller Unit (AMCU) Literature  
 BR1117/D 88110 RISC Microprocessor Preview  
 BR1118/D Motorola's 68LC040 Microprocessor  
 BR1119/D Motorola's 68EC040 Microprocessor  
 BR1401/D Military MC88100/MC88200  
 BR1406/D Military 68332  
 BR1420/D Military 68040  
 BRE243R3/D MC68020 Technical Summary  
 CPU32RM/AD CPU32 Central Processor Unit Reference Manual  
 DL409/D 16/32-bit Application Manual  
 GPTRM/AD Modular Microcontroller Family General Purpose Timer Reference Manual  
 M68000FR/AD M68000 Family Reference  
 M68000PM/AD M68000 Family Programmer's Reference Manual  
 M68020UM/AD MC68020/MC68EC020 Microprocessors User's Manual  
 M68040UM/AD MC68040, MC68EC040, MC68LC040 Microprocessors User's Manual  
 M68332EVKEM/AD1 M68332EVK Evaluation Kit Exercise Manual  
 MC68EC030UM/AD MC68EC030 32-bit Embedded Controller User's Manual

**Microprocessors: 32-bit MPU/MCU continued**

MC68030UM/AD	MC68030 Enhanced 32-bit MPU User's Manual, Third Edition
MC68040DH/AD	MC68040 Designer's Handbook
MC68330UM/AD	MC68330 Integrated CPU32 Processor Users Manual
MC68331UM/AD	MC68331 User's Manual
MC68332UM/AD	MC68332 User's Manual
MC68340UM/AD	MC68340 Integrated Processor User's Manual
MC88100UM/AD	MC88100 RISC Microprocessor User's Manual
MC88110UM/AD	MC88110 Second Generation RISC Microprocessor User's Manual
MC88410UM/AD	MC88410 Secondary Cache Controller User's Manual
MC88110/410DH/AD	MC88110/MC88410 Designer's Handbook
MPC601UM/AD	PowerPC 601 RISC Microprocessor User's Manual
QSMRM/D	Queued Serial Module Reference Manual
SG138/D	Military IC & Discrete Selector Guide
SG166/D	Advanced Microcontroller Division Update
SG167/D	High End MPUs Update
<b>SG416/D</b>	Clock Driver Selector
TB303/D	Using Microprocessors and Microcomputers: The Motorola Family (Greenfield and Wray, Rev. 1, 1988)
TB320/D	The M68000 Family. Volume 1: Architecture, Addressing Modes and Instruction Set (Hill & Nausch, 1989)
TB322/D	The M68000 Family. Volume 2: Applications and the M68000 Devices
TB323/D	The 68000 Book (Southern, 1990)
TB325/D	The Motorola MC68332 Microcontroller
TB325LM/D	Laboratory Manual: The MC68332 Microcontroller
TPURM/AD	M68300 Family Time Processor Unit Reference Manual

**8-bit Peripherals**

*AN820/D	Hardware Considerations for Direct Memory Access Using the MC6809 Microprocessor Unit and MC6844 DMA Controller
AN864A/D	Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs
AN894A/D	User Considerations for MC146818 Real Time Clock Applications
ANE425/D	Use of the MC68HC68T1 RTC with M6805 Microprocessors
*AR223/D	SCSI Protocol and Controller Ease Bus Arbitration

**Additional information relevant to 8-bit Peripherals may be found in the following Motorola documents:**

BR1116/D	Advanced Microcontroller Unit (AMCU) Literature
MC6840UM/AD1	MC6840 Programmable Timer Fundamentals and Applications
SG96/D	Linear and Interface Integrated Circuits Selector Guide & Cross Reference
TB303/D	Using Microprocessors and Microcomputers: The Motorola Family (Greenfield and Wray, Rev. 1, 1988)
TB316/D	Single- & Multi-Chip MCU Interfacing (Lipovski, 1988)

**16/32-bit Peripherals**

AN430/D	Adding Floating Point Support to an MC68030 High Performance System
AN457/D	Providing a Real-time Clock for the MC68302
AN854/D	The MC68230 Parallel Interface/Timer Provides an Effective Printer Interface
*AN880/D	An Evaluation Tool for the MC68451 MMU
*AN881/D	Dual-Ported RAM for the MC68000 Microprocessor
AN896A/D	Serial I/O, Timer and Interface Capabilities of the MC68901 Multi-Function Peripheral
AN899/D	A Terminal Interface, Printer Interface and Background Printer for an MC68000-Based System Using the MC68681 DUART
AN947/D	MC68881 Floating-Point Coprocessor As a Peripheral in an M68000 System
AN1013/D	MC68606 to Intel iAPX80186 Interface
AN1014/D	MC68606 to MC68020 Interface
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1405/D	ECL Clock Distribution Techniques
ANE426/D	An MC68030 32-bit High Performance Minimum System
*AR213/D	The MC68881 Floating-Point Coprocessor
*AR224/D	Standard SCSI Bus Facilitates Peripheral Control
*AR244/D	The Floating Point Performance Standard Gets Even Faster!
AR519/D	Low-Skew Clock Drivers: Which Type Is Best?
DC409/D	FDDI Chip Set Interface to an 80486 System

**Additional information relevant to 16/32-bit Peripherals may be found in the following Motorola documents:**

BR231/D	M68000 Family Technical Literature
BR272/D	MC68605 Technical Summary
BR460/D	The European Blue Book, 1992 - Qualified Semiconductor Products



**Microprocessors:** 16/32-bit Peripherals continued

BR461/D	M68000/M88000 Family Fact Sheet
BR509/D	MC68882 Technical Summary
BR726/D	Motorola Data Communications Semiconductors
BR742/D	M68000 Family Surface-Mount Packaging Update
BR911/D	Military Microprocessor Fact Sheet
BR919/D	Military Microprocessors – Motorola's 68030 and 68882
BR930/D	Military Token Bus Controller – 68824
BR1104/D	Motorola's FDDI Chip Set
BR1332/D	Logic Integrated Circuits Division: New Product Calendar
<b>BRE251R1/D</b>	MC68450 Technical Summary
<b>BRE262/D</b>	Motorola's Video/Graphics Peripherals
<b>BRE263R1/D</b>	MC68230 Technical Summary
<b>BRE286/D</b>	MC68184 Technical Summary
<b>BRE520/D</b>	MC68606 Technical Summary
DL409/D	16/32-bit Application Manual
M68000FR/AD	M68000 Family Reference
MC68302UM/AD	MC68302 Integrated Multiprotocol Processor User's Manual
MC68488UM/AD	MC68488 General Purpose Interface Adapter User's Manual
MC68605UM/AD	MC68605 X.25 Protocol Controller User's Manual
MC68606UM/AD	MC68606 Multi-Link LAPD Protocol Controller User's Manual
MC68824UM/AD	MC68824 Token Bus Controller User's Manual
MC68836UM/AD	MC68836 FDDI User's Manual
MC68837UM/AD	MC68837 FDDI User's Manual
MC68838UM/AD	MC68838 FDDI User's Manual
MC68851UM/AD	MC68851 Paged Memory Management Unit User's Manual
MC68881UM/AD	MC68881/MC68882 Floating-Point Coprocessor User's Manual
MC88200UM/AD	MC88200 Cache/Memory Management Unit User's Manual
SG96/D	Linear and Interface Integrated Circuits Selector Guide & Cross Reference
SG138/D	Military IC & Discrete Selector Guide
SG167/D	High End MPUs Update
TB318/D	Microprocessor Systems Design: 68000 Hardware, Software and Interfacing (Clements, 1987)
TB322/D	The M68000 Family. Volume 2: Applications and the M68000 Devices
TB323/D	The 68000 Book (Southern, 1990)

**MECL Bit Slice MPUs**

*AN774/D	A Simple High Speed Bipolar Microprocessor Illustrates System Design and Microprogram Techniques
*AN776/D	The M10800 MECL LSI Processor Family Motor & Lighting Control

**Motor & Lighting Control****see also Thyristors**

AN443/D	Direction and Speed Control for Series, Universal and Shunt
*AN733/D	A ROM-Digital Approach to PWM-Type Speed Control of AC Motors
AN861/D	Power Transistor Safe Operating Area: Special Considerations for Motor Drives
AN876/D	Using Power MOSFETs in Stepping Motor Control
AN938/D	Mounting Techniques for PowerMacro Transistor
AN1045/D	Series Triacs in AC High Voltage Switching Circuits
AN1046/D	Three Piece Solution for Brushless Motor Controller Design
AN1048/D	RC Snubber Networks for Thyristor Power Control and Transient Suppression
AN1049/D	The Electronic Control of Fluorescent Lamps
AN1078/D	New Components Simplify Brush DC Motor Drives
AN1090/D	Understanding and Predicting Power MOSFET Switching Behavior
AN1101/D	One-Horsepower Off-Line Brushless Permanent Magnet Motor Drive
AN1120/D	Basic Servo Loop Motor Control Using the MC68HC05B6 MCU
AN1300/D	Interfacing Microcomputers to Fractional Horsepower Motors
AN1301/D	Interfacing Analog Inputs to Fractional Horsepower Motors
AN1307/D	A Simple Pressure Regulator Using Semiconductor Pressure Transducers
AN1310/D	Using the MC68332 Microcontroller for AC Induction Motor Control
AN1311/D	Software for an 8-bit Microcontroller Based Brushed DC Motor Drive
AN1317/D	High-Current DC Motor Drive Uses Low On-Resistance Surface Mount MOSFETs
AN1319/D	Design Considerations for a Low Voltage N-Channel H-Bridge Motor Drive
AR160/D	Lossless Current Sensing with SENSEFETs Enhances Motor Drive
AR301/D	Solid-State Devices Ease Task of Designing Brushless DC Motors
ARE402/D	The Electronic Control of Fluorescent Tubes
EB123/D	A Simple Brush Type DC Motor Controller
EB128/D	Simple, Low-Cost Motor Controller



**Motor & Lighting Control continued**

EB141/D	Boost MOSFETs Drive Current in Solid State AC Relay
EB142/D	The MOSFET Turn-Off Device – A New Circuit Building Block
EB407/D	Basic Halogen Converter
EB409/D	The MI-BUS and Product Family for Multiplexing Systems

*Additional Information relevant to Motor & Lighting Control may be found in the following Motorola documents:*

<b>BR470/D</b>	Motorola Discretes – The Complete Solution
BR477/D	Smart Mover – Stepper Motors with Integrated Serial Bus Controller
BR924/D	Military Analog Lineup
DL111/D	Bipolar Power Transistor Data
DL412/D	Industrial Control Applications Manual
DL414/D	FET Applications Manual
SG96/D	Linear and Interface Integrated Circuits Selector Guide & Cross Reference

**Mounting Techniques & Surface Mount**

AN936/D	Mounting Techniques, Lead Forming and Testing of Motorola's MPX Series Pressure Transducers
AN938/D	Mounting Techniques for PowerMacro Transistor
AN1040/D	Mounting Considerations for Power Semiconductors
AN1041/D	Mounting Procedures for Very High Power RF Transistors
AN1051/D	Transmission Line Effects in PCB Applications
AN1061/D	Reflecting on Transmission Line Effects
AR145/D	DPAK: The Power Package for Surface Mount Applications
AR302/D	Thermal Management of Surface Mount Power Devices
AR323/D	Managing Heat Dissipation in DPAK Surface Mount Power Packages
AR513/D	Surface Mount: Discrete Component Trends
AR515/D	Wafers to Surface Mount Packages in One-Fourth the Time
AR516/D	Moto on 'Very Low-Scale Integration' Tack
AR523/D	An Overview of Surface Mount Technology (SMT) for Power Supply Applications
EB107/D	Mounting Considerations for Motorola RF Power Modules
EB109/D	Low Cost UHF Device Gives Broadband Performance at 3.0 Watts Output

*Additional Information relevant to Mounting Techniques may be found in the following Motorola documents:*

BR370/D	TO-220 Leadform Options
BR396/D	Discrete Military Products – Chips
<b>BR470/D</b>	Motorola Discretes – The Complete Solution
BR742/D	M68000 Family Surface-Mount Packaging Update
<b>BRE320R1/D</b>	Motorola Semiconductor Packages Surface Mount Technology
DL111/D	Bipolar Power Transistor Data
SG163/D	SOT-223 Surface Mount Products Selector Guide
SG271/D	D <sup>2</sup> PAK Surface Mount Selector Guide
SG275/D	Surface Mount Packages, Small-Signal Operations
SG370/D	Discrete Surface Mount

**Networking**

AN445/D	Software Model for the Implementation of I.430 ISDN Physical Layer on the MC145474/5 S/T Bus Transceiver
AN970/D	Hardware and Software Interface for the MC68605 X.25 Protocol Controller
AN1007/D	MC68824 Token Bus Controller to iAPX80186 Interface
AN1008/D	MC68824 Token Bus Controller to MC68010 Interface
AN1013/D	MC68606 to Intel iAPX80186 Interface
AN1014/D	MC68606 to MC68020 Interface
AN1054/D	ISDN System Development Using MC145490EVK/MC145491EVK Development Kits
*AR148/D	Carrier Bands Get NOD for Industrial Networks
*AR262/D	Some Silicon Solutions for MAP
AR350/D	Adapt Non-ISDN Terminals to ISDN Data Rates
DC004/D	Avoiding Transmit Underruns in a TBC-Based System
EB155/D	Analog to Digital Conversion with the Neuron Chip
EB157/D	Creating Applications with the LonBuilder Multi-Function I/O Kit
EB159/D	Neuron Chip-based Installation of LonWorks Networks
EB160/D	Neuron Chip Input/Output Timing Specification
EB161/D	LonTalk Protocol
EB406/D	Getting Started with the FDDI ADS Board

## Networking continued

*Additional information relevant to Networking may be found in the following Motorola documents:*

BR726/D	Motorola Data Communications Semiconductors
BR1104/D	Motorola's FDDI Chip Set
BR1107/D	LonWorks™ Applications Primer
BR1108/D	LonWorks™ Product Line Brief
BR1305/D	Linear Integrated Circuits: New Product Calendar
<b>BRE421/D</b>	A Short Tutorial on Networking
DL136/D	Communications Device Data
DL411/D	Communications Applications Manual
DL412/D	Industrial Control Applications Manual
LONPROD/D	LonWorks Products 1992
MC68302UM/AD	MC68302 Integrated Multiprotocol Processor User's Manual
MC68606UM/AD	MC68606 Multi-Link LAPD Protocol Controller User's Manual
MC68824UM/AD	MC68824 Token Bus Controller User's Manual (1987)
MC68836UM/AD	MC68836 FDDI User's Manual
MC68837UM/AD	MC68837 FDDI User's Manual
MC68838UM/AD	MC68838 FDDI User's Manual
SG169/D	MOS Digital-Analog Integrated Circuits

## Optoelectronics

*AN804/D	Applications of Ferruled Components to Fiber Optic Systems
*AN916/D	Applications of the MOC3031 and MOC3041 Zero-Crossing Triac Drivers
AN979/D	Guidelines for Circuit Board Assembly of Motorola Case 349 Opto Products
AN1016/D	Infrared Sensing and Data Transmission Fundamentals
AN1126/D	Evaluation Systems for Remote Control Devices on an Infrared Link
AN1203/D	A Software Method for Decoding the Output from the MC14497/MC3373 Combination
AN1511/D	Applications of the MOC2A40 and MOC2A60 Series POWER OPTO Isolators
AR517/D	High Resolution Position Sensor for Motion Control System
EB406/D	Getting Started with the FDDI ADS Board

*Additional information relevant to Optoelectronics may be found in the following Motorola documents:*

<b>BR470/D</b>	Motorola Discretes – The Complete Solution
BR1421/D	Solutions to Your Custom Sensing Needs
DL118/D	Optoelectronics Device Data
SG167/D	High End MPUs Update

## Phase-Locked Loop

AN535/D	Phase-Locked Loop Design Fundamentals
AN827/D	The Technique of Direct Programming by Using a Two-Modulus Prescaler
AN1091/D	Low Skew Clock Drivers and their System Design Considerations
AN1207/D	The MC145170 in Basic HF and VHF Oscillators
AR254/D	Phase-Locked Loop Design Articles
AR519/D	Low-Skew Clock Drivers: Which Type Is Best?

*Additional information relevant to Phase-Locked Loop may be found in the following Motorola documents:*

BR1332/D	Logic Integrated Circuits Division: New Product Calendar – Fourth Quarter, 1992
BR1415/D	Military Telecom Special Functions
BR1418/D	Military Analog, Telecom and Special Functions Fact Sheet
DL122/D	MECL Device Data
DL136/D	Communications Device Data
DL413/D	Radio, RF and Video Applications Manual
SG96/D	Linear and Interface Integrated Circuits Selector Guide & Cross Reference
SG366/D	TTL, ECL, CMOS and Special Logic Circuits Selector Guide
<b>SGE102R1/D</b>	CMOS System IC Selection Guide

## Power

## Power Supplies &amp; Voltage Regulators

<b>AN004E/D</b>	Semiconductor Consideration for DC Power Supply Voltage Protector Circuits
AN587/D	Analysis and Design of the Op Amp Current Source
AN703/D	Designing Digitally-Controlled Power Supplies
AN719/D	A New Approach to Switching Regulators
*AN767/D	A Line Operated, Regulated 5V/50A Switching Power Supply
AN875/D	Power Transistor Safe Operating Area: Special Considerations for Switching Power Supplies
AN915/D	Characterizing Collector-to-Emitter and Drain-to-Source Diodes for Switchmode Applications
AN920/D	Theory and Applications of the MC34063 and $\mu$ A78S40 Switching Regulator Control Circuits
AN929/D	Insuring Reliable Performance from Power MOSFETs
AN951/D	Drive Optimization for 1.0kV Off-Line Converter Transistors
*AN954/D	A Unique Converter Configuration
AN976/D	A New High Performance Current Mode Controller Teams Up with Current Sensing Power MOSFETs

**Power:**

Power Supplies &amp; Voltage Regulators continued

- AN1080/D External-Sync Power Supply with Universal Input Voltage Range for Monitors
- AN1090/D Understanding and Predicting Power MOSFET Switching Behavior
- AN1108/D Design Considerations for a Two Transistor, Current Mode Forward Converter
- AN1314/D Automatic Line Voltage Selector
- AN1320/D 300 Watt, 100 kHz Converter Utilizes Economical Bipolar Planar Power Transistor
- ANE402/D 130W Ringing Choke Power Supply Using TDA4601
- ANE424/D 50W Current Mode Controlled Offline Switch Mode Power Supply Working over 50% Duty Cycle Using the UC3842A
- AR326/D High-Voltage MOSFETs Simplify Flyback Design
- AR340/D The Low Forward Voltage Schottky
- AR514/D Build Ultra-Low Dropout Regulator
- AR523/D An Overview of Surface Mount Technology (SMT) for Power Supply Applications
- EB85A/X Full-Bridge Switching Power Supplies
- EB124/D MOSFETs Compete with Bipolars in Flyback Power Supplies
- EB126/D Ultra-Rapid Nickel-Cadmium Battery Charger
- EB142/D The MOSFET Turn-Off Device – A New Circuit Building Block

*Additional information relevant to Power Supplies & Voltage Regulators may be found in the following Motorola documents:*

- BR470/D** Motorola Discretes – The Complete Solution
- BR924/D Military Analog Lineup
- BR1305/D Linear Integrated Circuits: New Product Calendar
- BRE417/D** Motorola/TI Cross Reference Chart
- DL111/D Bipolar Power Transistor Data
- DL410/D Power Applications Manual
- DL414/D FET Applications Manual
- SG79/D Switchmode – A Designer's Guide for Switching Power Supply Circuits and Components
- SG96/D Linear and Interface Integrated Circuits Selector Guide & Cross Reference
- SG138/D Military IC & Discrete Selector Guide
- TB321/D Practical Switching Power Supply Design (Brown, 1990)

**Power Device Characteristics**

- AN450/D IC Design: A Statistical Approach to Electromigration
- AN803/D The Effect of Emitter-Base Avalanching on High-Voltage Power Switching Transistors

- AN845/D New Power Bipolars Compare Favourably with FETs for Switching Efficiency
- AN860/D Power MOSFETs versus Bipolar Transistors
- AN861/D Power Transistor Safe Operating Area: Special Considerations for Motor Drives
- AN873/D Understanding Power Transistor Dynamic Behaviour:  $dv/dt$  Effects on Switching RBSOA
- AN875/D Power Transistor Safe Operating Area: Special Considerations for Switching Power Supplies
- AN913/D Designing with TMOS Power MOSFETs
- AN924/D Measurement of Zener Voltage to Thermal Equilibrium with Pulsed Test Current
- AN930/D High Voltage, High Current, Non-Destructive FBSOA Testing
- AN952/D Ultrafast Recovery Rectifiers Extend Power Transistor SOA
- \*AN956/D The Operation and Application of the SMARTpower Overvoltage and Overtemperature Protectors
- AN1043/D Spice Model for TMOS Power MOSFETs
- AN1048/D RC Snubber Networks for Thyristor Power Control and Transient Suppression
- AN1076/D Speeding Up Horizontal Outputs
- AN1083/D Basic Thermal Management of Power Semiconductors
- AN1090/D Understanding and Predicting Power MOSFET Switching Behavior
- AN1102/D Interfacing Power MOSFETs to Logic Devices
- AR120/D Speeding Up the Very High Voltage Transistor
- AR340/D The Low Forward Voltage Schottky
- AR346/D RF Power FETs: Their Characteristics and Applications
- EB79/D Pulsed FT, a Technique for Accurately Measuring the Gain Bandwidth Product
- EB125/D Testing Power MOSFET Gate Charge
- EB129/X Snubbers for High Power Semiconductors
- EB131/D Curve Tracer Measurement Techniques for Power MOSFETs
- EB200/D An Evaluation Board for the MOC2A40 Series and MOC2A60 Series – Optically Isolated Zero Voltage Turn-On Triacs

*Additional information relevant to Power Device Characteristics may be found in the following Motorola documents:*

- BR370/D TO-220 Leadform Options
- BR470/D** Motorola Discretes – The Complete Solution
- BR904/D MIL-Processed Devices: Technical Data
- BR923/D Discrete & Materials Technologies Group, Reliability Audit Report
- DL110/D RF Device Data
- DL111/D Bipolar Power Transistor Data

**Power:**

## Power Device Characteristics continued

DL135/D	TMOS Power MOSFET Transistor Data
DL148/D	Discrete Military Operations Data
DL150/D	TVS/Zener Device Data
<b>DL401/D</b>	Power Switch
DL410/D	Power Applications Manual
DL414/D	FET Applications Manual
SG138/D	Military IC & Discrete Selector Guide
SG140/D	SCANSWITCH Selector Guide
SG265/D	Power MOSFETs Update
SG266/D	Bipolar Power Transistors Update
SG267/D	Rectifiers Product Update
SG270/D	Discrete Semiconductor Cross Reference Guide – 1992
SG370/D	Discrete Surface Mount

**Protection & Thermal Considerations**

AN569/D	Transient Thermal Resistance – General Data and Its Use
AN784/D	Transient Power Capability of Zener Diodes
AN843/D	A Review of Transients and Their Means of Suppression
*AN956/D	The Operation and Application of the SMARTpower Overvoltage and Overtemperature Protectors
AN1083/D	Basic Thermal Management of Power Semiconductors
*AR170/D	Characterizing Overvoltage Transient Suppressors
AR323/D	Managing Heat Dissipation in DPAK Surface Mount Power Packages
AR510/D	VSWR Protection of Solid State RF Power Transistors
EB29/D	The Common Emitter TO-39 and Its Advantages
EB129/X	Snubbers for High Power Semiconductors

*Additional information relevant to Protection & Thermal Considerations may be found in the following Motorola documents:*

DL150/D	TVS/Zener Device Data
DL410/D	Power Applications Manual

**Pressure Sensors**

AN840/D	Temperature Compensation Methods for the Motorola X-ducer Pressure Sensor Element
AN919/D	Using the Motorola X-ducer Pressure Sensor Data Sheet
AN922/D	Temperature Compensation, Calibration and Applications of Motorola's X-ducer Pressure Sensor

AN935/D	Compensating for Nonlinearity in the MPX10 Series Pressure Transducer
AN936/D	Mounting Techniques, Lead Forming and Testing of Motorola's MPX Series Pressure Transducers
AN962/D	MPX Pressure Sensors Used for Switch Applications
AN1082/D	Simple Design for a 4-20mA Transmitter Interface Using a Motorola Pressure Sensor
AN1097/D	Calibration-Free Pressure Sensor System
AN1100/D	Analog to Digital Converter Resolution Extension Using a Motorola Pressure Sensor
AN1105/D	A Digital Pressure Gauge Using the Motorola MPX700 Series Differential Pressure Sensor
AN1302/D	Motorola Pressure Sensors – Recommended Housing for Very Low Absolute Pressure Measurements
AN1303/D	A Simple 4-20mA Pressure Transducer Evaluation Board
AN1304/D	Integrated Sensor Simplifies Bar Graph Pressure Gauge
AN1305/D	An Evaluation System for Direct Interface of the MPX5100 Pressure Sensor with a Microprocessor
AN1307/D	A Simple Pressure Regulator Using Semiconductor Pressure Transducers
AN1309/D	Compensated Sensor Bar Graph Pressure Gauge
AN1312/D	Interfaced Sensor Evaluation Board
AN1313/D	Sensor Building Block Evaluation Board
AN1315/D	An Evaluation System Interfacing the MPX2000 Series Pressure Sensors to a Microprocessor
AN1316/D	Frequency Output Conversion for MPX2000 Series Pressure Sensors
AN1318/D	Interfacing Semiconductor Pressure Sensors to Microcomputers
AN1322/D	Applying Semiconductor Sensors to Bar Graph Pressure Gauges
AN1324/D	A Simple Sensor Interface Amplifier
AN1325/D	Amplifiers for Semiconductor Pressure Sensors
AN1326/D	Barometric Pressure Measurement Using Semiconductor Pressure Sensors
AN1513/D	Mounting Techniques and Plumbing Options of Motorola's MPX Series Pressure Sensors
AN1516	Liquid Level Control Using a Motorola Pressure Sensor
AN1517	Pressure Switch Design with Semiconductor Pressure Sensors
AN1518	Using a Pulse Width Modulated Output with Semiconductor Pressure Sensors
AR501S/D	Reliability Issues for Silicon Pressure Sensors
AR502S/D	The Design of a Monolithic Signal Conditioned Pressure Sensor



**Power:**

Pressure Sensors continued

**ARE139S/D** Sensors: Medical Applications

**BF8401/D** Temperature and Pressure Measurement with MC6805

*Additional information relevant to Pressure Sensors may be found in the following Motorola documents:*

<b>BR470/D</b>	Motorola Discretes – The Complete Solution
BR923/D	Discrete & Materials Technologies Group, Reliability Audit Report
DL200/D	Pressure Sensor Device Data
DL412/D	Industrial Control Applications Manual
<b>SG144E/D</b>	Sensors: Competitor Cross Reference
SG162/D	Sensor Operations

**Quality and Reliability**

AN450/D	IC Design: A Statistical Approach to Electromigration
AN1040/D	Mounting Considerations for Power Semiconductors
AN1041/D	Mounting Procedures for Very High Power RF Transistors
AR300/D	The Hidden Dangers of Electrostatic Discharge – ESD
AR501S/D	Reliability Issues for Silicon Pressure Sensors

*Additional information relevant to Quality and Reliability may be found in the following Motorola documents:*

BR347/D	Bipolar Logic Circuits – Quality & Reliability
BR460/D	The European Blue Book, 1992 – Qualified Semiconductor Products
BR518/D	Reliability & Quality Handbook
BR904/D	MIL-Processed Devices: Technical Data
BR923/D	Discrete & Materials Technologies Group, Reliability Audit Report
BR1100/D	Semiconductor Products Sector Memory Products Reliability and Quality Report
BR1202/D	Motorola Quality System Review Guidelines
HB213/D	Discrete Military Operation Handbook

**Radio Applications**

AN460/D	An RDS Decoder Using the MC68HC05E0
AN531/D	MC1596 Balanced Modulator
*AN753/D	Scanning Logic for RF Scanners–Receivers Using CMOS Integrated Circuits
AN878/D	VHF MOS Power Applications
AN923/D	800MHz Test Fixture Design
*AN925/D	UHF Preampifier Centers on Budget Dual-Gate GaAs FET
AN980/D	VHF Narrowband FM Receiver Design Using the MC3362 and the MC3363 Dual Conversion Receivers

AN1122/D	Running the MC44802A PLL Circuit
AN1207/D	The MC145170 in Basic HF and VHF Oscillators
ANE416/D	MC68HC05B4 Radio Synthesizer
AN-HK-02/H	Low Power FM Transmitter System MC2831A
AN-HK-07/H	A High Performance Manual-Tuned Receiver for Automotive Application Using Motorola ICs MC13021, MC13020 and MC13041
AR511/D	Biasing Solid State Amplifiers to Linear Operation
EB27A/D	Get 300 Watts PEP Linear Across 2 to 30MHz from this Push-Pull Amplifier
EB59/D	Predict Frequency Accuracy for MC12060 and MC12061 Crystal Oscillator

*Additional information relevant to Radio Applications may be found in the following Motorola documents:*

<b>BR470/D</b>	Motorola Discretes – The Complete Solution
BR1305/D	Linear Integrated Circuits: New Product Calendar
BR1334/D	High Performance Frequency Control Products
<b>BR504/D</b>	Electronic Tuning Address Systems
DL411/D	Communications Applications Manual
DL413/D	Radio, RF and Video Applications Manual
SG46/D	RF Products Selector Guide & Cross Reference
SG169/D	MOS Digital-Analog Integrated Circuits
SG366/D	TTL, ECL, CMOS and Special Logic Circuits Selector Guide
TB326/D	Radio Frequency Transistors – Principles & Applications (Dye & Grandberg, 1993)

**RF**

AN438/D	300W, 88 – 108MHz Amplifier Using the TP1940 MOSFETs Push-Pull Transistor
AN535/D	Phase-Locked Loop Design Fundamentals
AN593/D	Broadband Linear Power Amplifiers Using Push-Pull Transistors
*AN595/D	25 Watt and 10 Watt VHF Marine Band Transmitters
AN721/D	Impedance Matching Networks Applied to RF Power Transistors
AN779/D	Low-Distortion 1.6 to 30MHz SSB Driver Designs
AN791/D	A Simplified Approach to VHF Power Amplifier Design
AN847/D	Tuning Diode Design Techniques
AN878/D	VHF MOS Power Applications
AN955/D	A Cost Effective VHF Amplifier for Land Mobile Radios
AN1029/D	TV Transposers Band IV and V Po = 0.5W/1.0W



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AN1030/D	1W/2W Broadband TV Amplifier Band IV and V
AN1039/D	470-860 MHz Broadband Amplifier 5W
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EB29/D	The Common Emitter TO-39 and Its Advantages
EB59/D	Predict Frequency Accuracy for MC12060 and MC12061 Crystal Oscillator
EB77/D	A 60 Watt, 225-400MHz Amplifier - 2N6439
EB79/D	Pulsed FT, a Technique for Accurately Measuring the Gain Bandwidth Product
EB89/D	A 1 Watt, 2.3GHz Amplifier
EB90/D	Low-Cost VHF Amplifier has Broadband Performance
EB93/D	60 Watt VHF Amplifier Uses Splitting/Combining Techniques
EB104/D	Get 600 Watts RF from Four Power FETs
EB107/D	Mounting Considerations for Motorola RF Power Modules
EB109/D	Low Cost UHF Device Gives Broadband Performance at 3.0 Watts Output

**Additional information relevant to RF may be found in the following Motorola documents:**

<b>BR470/D</b>	Motorola Discretes - The Complete Solution
BR904/D	MIL-Processed Devices: Technical Data
BR923/D	Discrete & Materials Technologies Group, Reliability Audit Report

BR1305/D	Linear Integrated Circuits: New Product Calendar
BR1334/D	High Performance Frequency Control Products
BR1418/D	Military Analog, Telecom and Special Functions Fact Sheet
DL110/D	RF Device Data
DL126/D	Small-Signal Transistors, FETs and Diodes Device Data
DL148/D	Discrete Military Operations Data
DL413/D	Radio, RF and Video Applications Manual
DL414/D	FET Applications Manual
SG46/D	RF Products Selector Guide & Cross Reference
SG138/D	Military IC & Discrete Selector Guide
SG270/D	Discrete Semiconductor Cross Reference Guide - 1992
<b>SGE112/D</b>	Cross Reference for NEC-to-Motorola RF Transistors
TB326/D	Radio Frequency Transistors - Principles & Applications (Dye & Granberg, 1993)

**Small Signal Transistors & Diodes**

<b>AN470/D</b>	Bipolar Chopper Transistors and Circuits
*AN527/D	Theory, Characteristics and Applications of the Programmable Unijunction Transistor
AN1321/D	Brushless DC Motor Drive Incorporates Small Outline Integrated Circuit Packaged MOSFETs
AR515/D	Wafers to Surface Mount Packages in One-Fourth the Time
AR516/D	Moto on 'Very Low-Scale Integration' Tack

**Additional information relevant to Small Signal Transistors & Diodes may be found in the following Motorola documents:**

BR460/D	The European Blue Book, 1992 - Qualified Semiconductor Products
<b>BR470/D</b>	Motorola Discretes - The Complete Solution
BR923/D	Discrete & Materials Technologies Group, Reliability Audit Report
DL126/D	Small-Signal Transistors, FETs and Diodes Device Data
<b>SG145E/D</b>	Small Signal FETs: Siliconix to Motorola Cross Reference
SG163/D	SOT-223 Surface Mount Products Selector Guide
SG270/D	Discrete Semiconductor Cross Reference Guide - 1992
SG275/D	Surface Mount Packages, Small-Signal Operations

**Smart Card/Conditional Access***see also Microprocessors: 8-bit MPU/MCU*

- EB400/D Secure Single Chip Microcomputer Manufacture
- EB404/D "Memories Are Made of This" ... a Look at Memory Considerations for Smart Card Applications
- EB405/D Smart Cards: How to Deal Yourself a Winning Hand

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*Additional Information relevant to Smart Card/Conditional Access may be found in the following Motorola documents:*

- BR261/D 8/16/32-bit Microcontrollers from Motorola
- BR445/D The Standard in Smartcard Chips

**Software & Programming**

- AN427/D MC68HC11 EEPROM Error Correction Algorithms in C
- AN429/D MC68332 QSPI Interface for the MCM2814 EEPROM
- AN431/D Temperature Measurement and Display Using the MC68HC05B4 and the MC14489
- AN434/D Serial Bootstrap for the RAM and EEPROM1 of the MC68HC05B6
- AN437/D Using the MC68332 Periodic Interrupt Timer
- AN441/D MC68HC05E0 EPROM Emulator
- AN453/D Serial Peripheral Interface Device Emulation Routine for the MC68340
- AN455/D Using the Table Interpolation Features of the CPU32
- AN456/D Using PCbug11 as a Diagnostic Aid for Expanded Mode M68HC11 Systems
- AN458/D A Self-Test Approach for the MC68HC11A/E
- AN459/D A Monitor for the MC68HC05E0
- AN974/D MC68HC11 Floating-Point Package
- AN1010/D MC68HC11 EEPROM Programming from a Personal Computer
- AN1011/D MC146805G2 to MC68HC05C4 Conversion
- AN1015/D MC68020 Minimum System Configuration
- AN1055/D M6805 16-bit Support Macros
- AN1060/D MC68HC11 Bootstrap Mode
- AN1064/D Use of Stack Simplifies M68HC11 Programming
- AN1200/D Configuring the M68300 Family Time Processing Unit (TPU)

- AN1203/D A Software Method for Decoding the Output from the MC14497/MC3373 Combination
- ANE009/D** Register Display Program for the MC68881/MC68882
- ANE404/D An Extended MC146805E2 CBUG05 System Using the MC68HC25
- ANE425/D Use of the MC68HC68T1 RTC with M6805 Microprocessors
- AR273/D The 88000 Now
- DC408/D MC88110 Single Stepping Code Example
- DC410/D Fuzzy Logic – A New Approach to Embedded Control Solutions
- EB408/D MC68HC705T3 Bootloader
- TPUPN00/D Using the TPU Function Library and TPU Emulation Mode

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*Additional Information relevant to Software & Programming may be found in the following Motorola documents:*

- BR452/D** Motorola Development Support Guide
- BR568/D MCU Freeware
- BR724/D 88open Sourcebook
- BR729/D The 68K Source – Third Party Vendor Catalog (USA) for the 68000 Family of Microprocessors
- BR730/D M68HC05PGMR Programmer Board
- BR731/D 88open Consortium: Software Initiative
- BR748/D M68HC711D3PGMR Programmer Board
- BR1111/D M68HC705J2/P9PGMR Programmer Board
- BR1113/D M68HC705B5PGMR Programmer Board
- BR1447/D Design–NET Installation and Usage on the IBM PC
- BR1448/D Design–NET Installation and Usage on the Macintosh
- HC711D3EVB/AD1 M68HC711D3EVB Evaluation Board User's Manual
- HC711D3PGMR/AD1 M68HC11711D3PGMR Programmer Board User's Manual
- M68PCBUG11/D2 M68HC11 PCbug11 User's Manual
- M6809PM/AD MC6809-MC6809E Microprocessor Programming Manual
- M68000PM/AD M68000 Family Programmer's Reference Manual
- M68000UM/AD M68000 8-/16-/32-bit Microprocessors User's Manual, Eighth Edition
- M68332EVKEM/AD1 M68332EVK Evaluation Kit Exercise Manual
- MC68HC11F1RG/AD MC68HC11F1 Programming Reference Guide
- MC68851UM/AD MC68851 Paged Memory Management Unit User's Manual
- SG146/D Digital Signal Processors Update

**Software & Programming continued**

TB301/D	Basic Microprocessors and the 6800 (Bishop, 1979)
TB309/D	Programming the 6809 (Zaks & Labiak, 1982)
TB313/D	Efficient C (Plum & Brodie, 1985)
TB316/D	Single- & Multi-Chip MCU Interfacing (Lipovski, 1988)
TB318/D	Microprocessor Systems Design: 68000 Hardware, Software and Interfacing (Clements, 1987)
TB320/D	The M68000 Family. Volume 1: Architecture, Addressing Modes and Instruction Set (Hilf & Nausch, 1989)
TB322/D	The M68000 Family. Volume 2: Applications and the M68000 Devices
TB323/D	The 68000 Book (Southern, 1990)
TPURM/AD	M68300 Family Time Processor Unit Reference Manual

**SPICE I/O Models**

*AN700/D	Simulate MECL System Interconnections with a Computer Program
AN1400/D	MC10/100H640 Clock Driver Family I/O SPICE Modelling Kit
AN1401/D	Using SPICE to Analyze the Effects of Board Layout on System Skew when Designing with the MC10/100H640 Family of Clock Drivers
AN1402/D	MC10/100H00 Translator Family I/O SPICE Modelling Kit
AN1403/D	FACT I/O Model Kit
AN1503/D	ECLinPS™ I/O SPICE Modelling Kit

**Telecommunications****see also Interfacing**

AN457/D	Providing a Real-time Clock for the MC68302
*AN581/D	An MSI 500 MHz Frequency Counter Using MECL and MTTL
AN940/D	Telephone Dialing Techniques Using the MC6805
AN943/D	UDLT Evaluation Board
AN948/D	Data Multiplexing Using the Universal Digital Loop Transceiver and the Data Set Interface
AN949/D	A Voice/Data Modem Using the MC145422/26, MC145428 and MC14403
AN957/D	Interfacing the Speakerphone to the MC34010/11/13 Speech Networks
AN958/D	Transmit Gain Adjustments for the MC34014 Speech Network
AN959/D	A Speakerphone with Receive Idle Mode
AN960/D	Equalization of DTMF Signals Using the MC34014

AN968/D	A Digital Voice/Data Telephone Set
AN970/D	Hardware and Software Interface for the MC68605 X.25 Protocol Controller
AN1002/D	A Handsfree Featurephone Design Using the MC34114 Speech Network and the MC34018 Speakerphone ICs
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AN1061/D	Reflecting on Transmission Line Effects
AN1077/D	Adding Digital Volume Control to Speakerphone Circuits
AN1091/D	Low Skew Clock Drivers and Their System Design Considerations
AN1207/D	The MC145170 in Basic HF and VHF Oscillators
AN1401/D	Using SPICE to Analyze the Effects of Board Layout on System Skew When Designing with the MC10/100H640 Family of Clock Drivers
AN1405/D	ECL Clock Distribution Techniques
AN-HK-01/H	300 Baud Smart Modem with Intelligent MCU Controller
APR1/D	Digital Sine-Wave Synthesis Using the DSP56001/DSP56002
APR9/D	Full-Duplex 32-kbit/s CCITT ADPCM Speech Coding on the Motorola DSP56001
APR12/D	Twin CODEC Expansion Board for the DSP56000 Application Development System
APR14/D	Conference Bridging in the Digital Telecomm Environment Using the Motorola DSP56000
APR401/D	Twin CODEC Expansion Board for the DSP56000 Application Development System
AR519/D	Low-Skew Clock Drivers: Which Type Is Best?
BF8501/D	2x8 Key System
EB77/D	A 60 Watt, 225-400MHz Amplifier – 2N6439
EB89/D	A 1 Watt, 2.3GHz Amplifier

*Additional Information relevant to Telecommunications may be found in the following Motorola documents:*

BR470/D	Motorola Discretes – The Complete Solution
BR1333/D	Low Skew Clock Drivers and Programmable Delay Circuits
BR1334/D	High Performance Frequency Control Products

## Telecommunications continued

BR1413/D	Military 35102 Sleep-Mode Op Amp
BR1415/D	Military Telecom Special Functions
BR1418/D	Military Analog, Telecom and Special Functions Fact Sheet
DL136/D	Communications Device Data
DL411/D	Telecommunications Applications Manual
MC68302UM/AD	MC68302 Integrated Multiprotocol Processor User's Manual
MC68605UM/AD	MC68605 X.25 Protocol Controller User's Manual
SG46/D	RF Products Selector Guide & Cross Reference
SG96/D	Linear and Interface Integrated Circuits Selector Guide & Cross Reference
SG98/D	Linear Telecom Cross Reference
SG138/D	Military IC & Discrete Selector Guide
SG169/D	MOS Digital-Analog Integrated Circuits
SG366/D	TTL, ECL, CMOS and Special Logic Circuits Selector Guide
<b>SGE102R1/D</b>	CMOS System IC Selection Guide

## Thyristors and Triacs

AN443/D	Direction and Speed Control for Series, Universal and Shunt
*AN527/D	Theory, Characteristics and Applications of the Programmable Unijunction Transistor
*AN916/D	Applications of the MOC3031 and MOC3041 Zero-Crossing Triac Drivers
AN964/D	Trigger Design Ideas for DIAC Replacements
AN1045/D	Series Triacs in AC High Voltage Switching Circuits
AN1048/D	RC Snubber Networks for Thyristor Power Control and Transient Suppression
AN1314/D	Automatic Line Voltage Selector
EB30/D	Sensitive Gate SCRs – Don't Forget the Gate-Cathode Resistor
EB91/X	The Use of Inverse-Parallel SCRs
EB126/D	Ultra-Rapid Nickel-Cadmium Battery Charger

*Additional information relevant to Thyristors may be found in the following Motorola documents:*

BR904/D	MIL-Processed Devices: Technical Data
BR923/D	Discrete & Materials Technologies Group, Reliability Audit Report
DL137/D	Thyristor Device Data
DL148/D	Discrete Military Operations Data
DL410/D	Power Applications Manual
SG268/D	Thyristors Update
SG270/D	Discrete Semiconductor Cross Reference Guide – 1992

## TV and Video

AN433/D	TV On-Screen Display Using the MC68HC05T1
AN446/D	MCM2814 Gang-Programmer Using an MC68HC805B6
AN448/D	"FLOF" Teletext Using M6805 Microcontrollers
AN545A/D	Television Video IF Amplifier Using Integrated Circuits
AN829/D	Application of the MC1374 TV Modulator
AN879/D	Monomax: Application of the MC13001 Monochrome Television Integrated Circuit
AN921/X	Horizontal APC/AFC Loops
*AN932/D	Application of the MC1377 Colour Encoder
AN1019/D	Decoding Using the TDA3330, with Emphasis on Cable In/Cable Out Operation
AN1029/D	TV Transposers Band IV and V Po = 0.5W/1.0W
AN1030/D	1W/2W Broadband TV Amplifier Band IV and V
AN1039/D	470-860 MHz Broadband Amplifier 5W
AN1044/D	The MC1378 – A Monolithic Composite Video Synchronizer
AN1076/D	Speeding up Horizontal Outputs
AN1080/D	External-Sync Power Supply with Universal Input Voltage Range for Monitors
AN1103/D	Using the CR3424 for High Resolution CRT Applications
AN1122/D	Running the MC44802A PLL Circuit
AN1203/D	A Software Method for Decoding the Output from the MC14497/MC3373 Combination
AN1306/D	Thermal Distortion in Video Amplifiers

*Additional information relevant to TV and Video may be found in the following Motorola documents:*

<b>BR470/D</b>	Motorola Discretes – The Complete Solution
BR924/D	Military Analog Lineup
BR1305/D	Linear Integrated Circuits: New Product Calendar
BR1418/D	Military Analog, Telecom and Special Functions Fact Sheet
<b>BRE262/D</b>	Motorola's Video/Graphics Peripherals
DL111/D	Bipolar Power Transistor Data
DL413/D	Radio, RF and Video Applications Manual
SG46/D	RF Products Selector Guide & Cross Reference
SG96/D	Linear and Interface Integrated Circuits Selector Guide & Cross Reference
SG140/D	SCANSWITCH Selector Guide
SG169/D	MOS Digital-Analog Integrated Circuits
SG368/D	Video Capture chip Set Selector Guide



## Unijunction

- \*AN294/D Unijunction Transistor Timers and Oscillators
- \*AN527/D Theory, Characteristics and Applications of the Programmable Unijunction Transistor

*Additional Information relevant to Unijunction may be found in the following Motorola documents:*

- DL148/D Discrete Military Operations Data
- SG270/D Discrete Semiconductor Cross Reference Guide – 1992

## All Products and Application Areas

- AR515/D Wafers to Surface Mount Packages in One-Fourth the Time
- BR101/D Technical Literature and Information Catalog (order a BR464/D: *Technical Books* in Europe)
- BR128/D Semiconductor Data 'Update' Magazine

- BR128E/D 'Update' Europe
- BR380/D SPS Bar Code Label Specifications
- BR392/D Statistical Process Control
- BR460/D The European Blue Book, 1992 – Qualified Semiconductor Products
- BR464/D** Technical Books (Europe version of BR101/D)
- BR471/D** Motorola Semiconductor Applications Manuals
- BR472/D European Distributors
- BR474/D European Bar Code Specifications
- BR518/D Reliability & Quality Handbook
- BR914/D MEP Product Flow
- BR925/D Six Sigma Roadmap
- BR1202/D Motorola Quality System Review Guidelines
- BR1306/D CATS – Customer Analysis Tracking System
- HB213/D Discrete Military Operation Handbook
- SG73/D Master Selection Guide



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# Alphanumeric Index

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*AN713	Binary D/A Converters can Provide BCD-Coded Conversion	AN814	Using Integrated Detector/Pre-amplifiers in Fiber Optics Systems
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*AN733	A ROM-Digital Approach to PWM-Type Speed Control of AC Motors	AN829	Application of the MC1374 TV Modulator
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AN768A/X	CMOS Schmitt Triggers	AN860	Power MOSFETs versus Bipolar Transistors
AN770	Data Acquisition Networks with NMOS and CMOS	AN861	Power Transistor Safe Operating Area: Special Considerations for Motor Drives
*AN774	A Simple High Speed Bipolar Microprocessor Illustrates System Design and Microprogram Techniques	AN862	Interfacing Digital Circuits to Thyristor Controlled AC Loads
*AN776	The M10800 MECL LSI Processor Family	AN864A	Interfacing Multiplexed Bus Peripherals with Non-Multiplexed MPUs
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AN781A	Revised Data-Interface Standards		

*AN866	Vectoring the Device Using Interrupt SYNC Acknowledge with the MC6809/MC6809E	AN918	Paralleling Power MOSFETs in Switching Applications
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AN875	Power Transistor Safe Operating Area: Special Considerations for Switching Power Supplies	AN922	Temperature Compensation, Calibration and Applications of Motorola's X-ducer Pressure Sensor
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| AR323   | Managing Heat Dissipation in DPAK Surface Mount Power Packages                                       | <b>ARE139S</b> | Sensors: Medical Applications  |
| AR324   | TAB TAMES High Density Chip I/Os   | ARE402         | The Electronic Control of Fluorescent Tubes                                  |
| AR326   | High-Voltage MOSFETs Simplify Flyback Design   | <b>BF8105</b>  | MC145026 and MC145027 Remote Control System                                  |
| AR327   | MOSFETs Compete with Bipolars in Flyback Power Supplies  | BF8401         | Temperature and Pressure Measurement with MC6805                             |
|         |  | BF8501         | 2x8 Key System   |

*DC001	Virtual Memory Using the MC68000 and the MC68451	EB124	MOSFETs Compete with Bipolars in Flyback Power Supplies
DC003	Using the MC68020 as a Dedicated DMA Controller	EB125	Testing Power MOSFET Gate Charge
DC004	Avoiding Transmit Underruns in a TBC-Based System	EB126	Ultra-Rapid Nickel-Cadmium Battery Charger
DC407	Interfacing MC68020 and MC68030 to DSP56001 Host Port	EB128	Simple, Low-Cost Motor Controller
DC408	MC88110 Single Stepping Code Example	EB129/X	Snubbers for High Power Semiconductors
DC409	FDDI Chip Set Interface to an 80486 System	EB130	An Evaluation Board for the MPX2000 Series Pressure Sensors
DC410	Fuzzy Logic – A New Approach to Embedded Control Solutions	EB131	Curve Tracer Measurement Techniques for Power MOSFETs
DCE402	MC68030 25MHz Benchmarking Board	EB141	Boost MOSFETs Drive Current in Solid State AC Relay
DCE403	Interfacing 25MHz MC68030 to a 20MHz MC68882	EB142	The MOSFET Turn-Off Device – A New Circuit Building Block
DCE404	Hardware Trap for MC68000	EB146	Neuron Chip Quadrature Input Function Interface
DCE406	Interface for MC68000 to DSP56001 Host Port	EB147	LonWorks Installation Overview
EB20	True RMS Detector	EB148	Enhanced Media Access Control with Echelon's LonTalk Protocol
EB27A	Get 300 Watts PEP Linear Across 2 to 30MHz from this Push-Pull Amplifier	EB149	Optimizing LonTalk Response Time
EB29	The Common Emitter TO-39 and Its Advantages	EB150	Neuron Chip RS-485 Transceiver
EB30	Sensitive Gate SCE – Don't Forget the Gate Cathode Resistor	EB151	Scanning a Keypad with the Neuron Chip
EB38/X	Measuring the Intermodulation Distortion of Linear Amplifiers	EB152	How to Use SNVTs in LonWorks Applications
EB47/X	"Event Counter and Storage Latches for High-Frequency, High-Resolution Counters"	EB153	Driving a Seven Segment Display with the Neuron Chip
EB48	"T Time Base & Control Logic Subsystem for High-Frequency, High-Resolution Counters"	EB155	Echelon Analog-to-Digital Conversion with the Neuron Chip
EB51	Successive Approximation BCD A/D Converter	EB157	Echelon Creating Applications with the LonBuilder Multi-Function I/O Kit
EB54/X	A Simple One Phase-REVersal Detection Circuit	EB159	Echelon Neuron Chip-based Installation of LonWorks Networks
EB59	Predict Frequency Accuracy for MC12060 and MC12061 Crystal Oscillator Circuit	EB160	Echelon Neuron Chip Input/Output Timing Specification
EB77	A 60-Watt 225-400 MHz AMP 2N6439	EB161	Echelon LonTalk Protocol
EB79	Techniques for Accurately Measuring the Gain Band with Product of Power Transistors	EB162	Programming Tips (MC88110)
EB85A	Full-Bridge Switching Power Supplies	EB163	Running the MC88110 in Lockstep
EB89/X	A 1 Watt, 2.3GHz Amplifier	EB164	Interrupt Latency in MC88110
EB90	Low-Cost VHF Amp Has Broadband Performance	EB165	Hardware Implications of xmem as an st Followed by an ld
EB91/X	The Use of Inverse-Parallel SCRs	EB166	System Design Considerations: Converting from MC805B6 to HC705B16 MCU
EB93	60-Watt VHF Amplifier uses Splitting/Combining Techniques	EB200	An Evaluation Board for the MOC2A40 Series and MOC2A60 Series – Optically Isolated Zero Voltage Turn-On Triacs
EB101	The MOC3011 and MOC3022	EB400	Secure Single Chip Microcomputer Manufacture
EB104	Get 600 Watts RF from Four Power FETs	EB401	SCAM Modules for Smart Cards
EB105/X	"A 30 watt, 800 MHz Amplifier Design"	EB402	Smart Card Product Packaging, MC6805SC01, MC68HC05SC11 and MC68HC05SC21
EB106/X	"The SIDAC, A New High Voltage Trigger That Reduces Circuit Complexity And Cost"	EB403	Smart Card bootstrap loader, MC68HC05SC21B
EB107	Mounting Considerations for Motorola RF Power Modules	EB404	"Memories Are Made of This" ... a Look at Memory Considerations for Smart Card Applications
EB108	Relative Efficiencies of Power Semiconductors in a PWM DC Motorola Controller	EB405	Smart Cards: How to Deal Yourself a Winning Hand
EB109	Low Cost UHF Device Gives Broadband Performance at 3.0 Watts Output	EB406	Getting Started with the FDDI ADS Board
EB116	Chip-Select Generation for a 33.33MHz MC68030 Microprocessor and a 33.33MHz MC68882 Floating-Point Coprocessor	EB407	Basic Halogen Converter
EB117	MC88100 P-Bus Flexibility Using PCE	EB408	MC68HC705T3 Bootloader
EB121	SCR Improves DC Motor Controller Efficiency	EB409	The MI-BUS and Product Family for Multiplexing Systems
EB123	A Simple Brush Type DC Motor Controller		